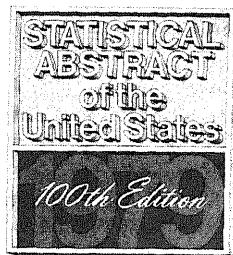


# Business Enterprise



This section relates to the place and behavior of the business firm and of business initiative in the American economy. It includes data on the number, types, and size of businesses; financial data of domestic and foreign affiliates of U.S. corporations; business investment, expenditures, and profits; business sales and inventories; consumer cooperatives; minority-owned firms; mergers, acquisitions, and business failures. Additional data on the conduct of business may be found in other sections, particularly 29 and 30.

The principal sources of these data are the *Survey of Current Business*, published by the Bureau of Economic Analysis (BEA); the *Federal Reserve Bulletin*, issued by the Board of Governors of the Federal Reserve System; the annual *Statistics of Income* reports of the Internal Revenue Service (IRS); *The Failure Record Through (Year)*, issued by Dun & Bradstreet, Inc., New York; and *Fortune* and *The Fortune Directory*, issued by Fortune, New York. Other sources are publications of the Securities and Exchange Commission (SEC), and the Federal Trade Commission (FTC).

**Business firms.**—A firm is generally defined as a business organization under a single management and may include one or more establishments (i.e. a single physical location at which business is conducted). The terms firm, business, company, and enterprise are used interchangeably throughout this section. A firm doing business in more than one industry is classified by industry according to the major activity of the firm as a whole. The industrial classification is based on the *Standard Industrial Classification (SIC) Manual* (see text, page 390).

The IRS concept of a business firm relates primarily to the legal entity used for tax reporting purposes. The IRS *Statistics of Income* reports present data, based on a sample of tax returns before audit, separately for sole proprietorships, partnerships, and active corporations. A *sole proprietorship* is an unincorporated business owned by one person. Sole proprietorships include the entire range of unincorporated, one-owner businesses, farms, and professional practices, from large enterprises with many employees and hired managers to the part-time operations in which the owner is the only person involved. A *partnership* is an unincorporated business owned by two or more persons, each of whom has a financial interest in the business. The "persons" could be individuals, estates, trusts, or corporations. A *corporation* is a business that is legally incorporated under State laws. The IRS recognizes many types of businesses as corporations, including joint-stock companies; insurance companies; and unincorporated associations such as business trusts, savings and loan associations, certain partnerships, mutual savings banks, and cooperative banks. While many corporations file consolidated tax returns (i.e. one return for the parent firm and all its subsidiaries), most corporate tax returns represent individual corporations, some of which are affiliated through common ownership or control with other corporations filing separate returns.

**Corporate assets and liabilities.**—In its annual report, *Statistics of Income, Corporation Income Tax Returns*, the IRS presents balance sheet and income estimates for all active U.S. corporations. The FTC issues 2 current reports, the *Quarterly Financial Report for Manufacturing, Mining and Trade Corporations*, which presents quarterly income account and balance sheet data for manufacturing industries, and the *Working Capital of U.S. Nonfinancial Corporations*, which presents data on components of current assets and liabilities of all nonfinancial U.S. corporations. Until 1978, the latter was issued by the SEC. Broker-dealer financial data are detailed in the *Annual Report of the SEC*.

One of the most comprehensive measures of the investment position of the business

sector (and the only measure adjusted to current replacement cost) is the BEA capital stock series. See *Nonresidential Business and Residential Capital in the United States, 1926-75*, and periodic updates in the *Survey of Current Business*.

**Corporate income, profits, dividends, and taxes.**—Several agencies, among them IRS and BEA, compile corporate income account data. These data, however, are not comparable because of differing methods of compilation. A reconciliation of the two can be found in table 8.5 of *National Income and Product Accounts*, published by BEA.

The IRS publishes financial data for all business enterprises, based on a sample of income tax returns filed by sole proprietorships, partnerships, and corporations. These data appear in *Statistics of Income—Business Income Tax Returns and Corporation Income Tax Returns*. Supplemental reports published periodically present data on international income and taxes reported by U.S. corporations.

The corporate data issued by the BEA are a part of its national income and product accounts (see text, p. 433) and are defined as required for purposes of national income estimation. The primary sources for BEA estimates of profits, taxes, dividends, and undistributed profits are the original corporate tax returns submitted to the IRS. Various adjustments of the IRS data are required by the national income treatment, particularly with respect to profits which would be disclosed if all tax returns were audited, depletion, capital gain or loss, treatment of bad debts, measurement of income received from abroad, and intercorporate dividends to make the figures comparable with other entries in the national income accounts. For a discussion of two types of adjustments (inventory valuation and capital consumption), see text, page 433. BEA's corporate profits data also include net earnings of Federal Reserve banks, credit unions, private noninsured pension funds, and several federally sponsored credit agencies not included in *Statistics of Income*.

**Sources and uses of corporate funds.**—These data (table 938) show capital requirements of corporations and the manner in which they are financed. Sources of funds should be equal to their uses. Certain discrepancies, however, interfere with this equality due to omission of such factors as (1) money accruing to corporations from an excess of sales over purchases of used plant and equipment, (2) transactions in securities held as permanent investments except public offerings, and (3) net purchases of land. Also, the balance sheet data upon which many of the financial flow estimates are based are not fully comparable with the tax-return based estimates of internal sources, or the establishment series underlying the figures on inventory change.

**Plant and equipment expenditures.**—Estimates of actual and planned expenditures for new plant and equipment in the United States by most private, nonagricultural business firms are based on quarterly sample surveys conducted jointly by the Bureau of Economic Analysis and the Interstate Commerce Commission.

The sample was designed for complete coverage of all companies with gross assets of \$50 million or more, and a random selection of companies with assets of less than \$50 million. There are approximately 10,000 firms in the sample, with response rates varying from 70 to 75 percent. Published data are adjusted to reflect the expenditures of all companies. In 1972, the responding companies accounted for 68 percent of total capital expenditures in the United States.

For quarterly data, see current issues of the *Survey of Current Business*; for discussion of coverage, concepts, and methodology, see the January 1970 issue for actual expenditures and the February 1970 issue for planned expenditures.

**Sales and inventories.**—Sales are estimated aggregate values, and inventories are book values at the end of the period. Sales signifies sales or shipments for retail and wholesale trade and billings or shipments for manufacturing. Trade inventories are valued at cost of merchandise on hand, while manufacturers' inventories are valued at approximate current costs or at book values, as reported by the manufacturer. Inventories figures (see tables 928 and 929) are based on data from censuses (conducted every five years, for years ending in "2" and "7") and annual surveys. Monthly data

for manufacturing appear in *Manufacturers' Shipments, Inventories, and Orders*, published by the Bureau of the Census in its Current Industrial Reports, series M3-1; data for retail and wholesale trade appear in *Monthly Retail Trade, Sales Accounts Receivable and Inventories*, and *Monthly Wholesale Trade, Sales and Inventories*.

**Statistical reliability.**—For a discussion of statistical collection and estimation, sampling procedures and measures of statistical reliability applicable to Census Bureau data, see Appendix III.

**Historical statistics.**—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1970*. See Appendix I.

#### NO. 913. PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS—NUMBER, RECEIPTS, AND INCOME: 1950 TO 1976

[Figures are estimates based on samples for all years for proprietorships, beginning 1955 for corporations, and 1960 for partnerships; see Appendix III. See also *Historical Statistics, Colonial Times to 1970*, series V 1-12]

ITEM	1950	1955	1960	1965	1970	1973	1974	1975	1976, prel.
Number.....1,000..	(NA)	(NA)	11,172	11,416	12,001	13,592	13,902	13,979	14,559
Receipts <sup>1</sup> .....bil. dol.	(NA)	(NA)	1,095	1,469	2,082	2,994	3,557	3,685	4,141
Net income (less deficit) <sup>2</sup> bil. dol.	(NA)	(NA)	73	111	109	176	201	196	245
Proprietorships, number <sup>3</sup> .....1,000..	6,865	8,239	9,090	9,078	9,400	10,648	10,874	10,882	11,358
Business receipts <sup>1</sup> .....bil. dol.	(NA)	139	171	199	238	311	328	339	375
Net income (less deficit) <sup>2</sup> bil. dol.	15	18	21	28	33	47	46	45	50
Partnerships, number.....1,000..	(NA)	(NA)	941	914	936	1,039	1,062	1,073	1,096
Total receipts <sup>4</sup> .....bil. dol.	(NA)	(NA)	74	75	93	125	139	147	160
Net income (less deficit) <sup>2</sup> bil. dol.	(NA)	(NA)	8	10	10	9	8	8	10
Corporations, number.....1,000..	629	807	1,141	1,424	1,665	1,905	1,966	2,024	2,105
Total receipts <sup>4</sup> .....bil. dol.	458	642	849	1,195	1,751	2,558	3,090	3,199	3,606
Percent of all firms receipts	(NA)	(NA)	77.5	81.3	84.1	85.4	86.9	86.8	87.1
Net income (less deficit) <sup>2</sup> bil. dol.	43	47	44	74	66	120	146	143	185

NA Not available. <sup>1</sup> See footnote 2, table 914. <sup>2</sup> See footnote 3, table 914. <sup>3</sup> Individually owned businesses and farms. <sup>4</sup> Total taxable receipts before deduction of cost of goods sold, cost of operations, and net loss from sales of property other than capital assets. Excludes nontaxable income except nontaxable interest. See headnote, table 914. <sup>5</sup> Beginning 1965, includes constructive taxable income from related foreign corporations.

#### NO. 914. PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS—NUMBER, RECEIPTS, AND NET INCOME, BY INDUSTRY: 1976

[Figures are estimates based on sample of unaudited tax returns filed for accounting periods ending between July 1 of year shown and June 30 of following year; see Appendix III. Due to minor variations in estimating techniques, totals differ slightly from those shown in other IRS tables in this section. Proprietorships are individually owned businesses and farms. See *Historical Statistics, Colonial Times to 1970*, series V 42-53, for number of active corporations]

INDUSTRY	NUMBER <sup>1</sup> (1,000)			BUSINESS RECEIPTS <sup>1,2</sup> (bil. dol.)			NET INCOME (less deficit) <sup>1,3</sup> (bil. dol.)		
	Proprietorships	Active partnerships	Active corporations	Proprietorships	Active partnerships	Active corporations	Proprietorships	Active partnerships	Active corporations
Total.....	11,358	1,096	2,105	375.0	157.6	3,341.7	49.5	10.4	184.8
Agric., forestry, and fishing.....	3,470	121	62	77.7	12.9	30.7	5.7	1.0	.1
Mining.....	60	18	15	3.6	5.3	82.8	.2	(Z)	30.0
Construction.....	963	60	198	38.0	13.1	148.7	5.6	1.1	2.7
Manufacturing.....	223	31	214	9.4	8.0	1,400.5	1.0	.5	88.3
Transportation, public utilities.....	346	17	81	11.2	2.5	274.4	1.4	—	14.8
Wholesale and retail trade.....	2,282	195	646	158.2	46.1	1,080.9	9.9	2.4	26.1
Wholesale.....	331	32	228	35.2	16.0	563.0	2.9	.7	15.8
Retail.....	1,861	162	417	120.7	30.0	517.6	6.7	1.7	10.4
Finance, insurance, real estate.....	827	447	414	15.3	37.6	354.7	5.3	—2.3	18.1
Services.....	3,153	207	473	61.2	32.1	140.6	20.3	7.8	4.2

Z Less than \$50 million. <sup>1</sup> Includes business not allocable to individual industries.

<sup>2</sup> Receipts from sales and services less allowances, rebates, and returns; excludes capital gains or losses, and investment income not associated with the taxpayer's business.

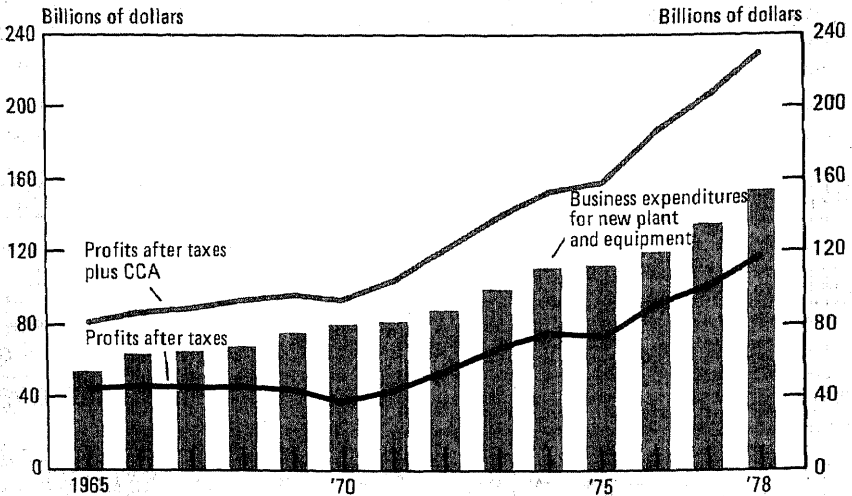
<sup>3</sup> Net profit (or income) is defined differently by legal form of organization, basically as follows: (a) Proprietorships: Total taxable receipts less total deductions, including cost of sales and operations; investment and other income are excluded; (b) Partnerships: Total taxable receipts less total deductions, including cost of sales and operations; investment and other income, except capital gains, are included; (c) Corporations: Total taxable receipts less total deductions, including cost of sales and operations; investment and other income, such as capital gains and income from foreign corporations considered received for tax purposes only, are included; net profit is before income tax. <sup>4</sup> Includes sanitary services.

Source of tables 915 and 918: U.S. Internal Revenue Service, preliminary reports, *Statistics of Income, Business Income Tax Returns*, annual, and *Statistics of Income, Corporation Income Tax Returns*, annual.

Figure 18.1

### Business Expenditures, Profits, and Capital Consumption Allowances (CCA): 1965 to 1978

(See tables 926 and 939)

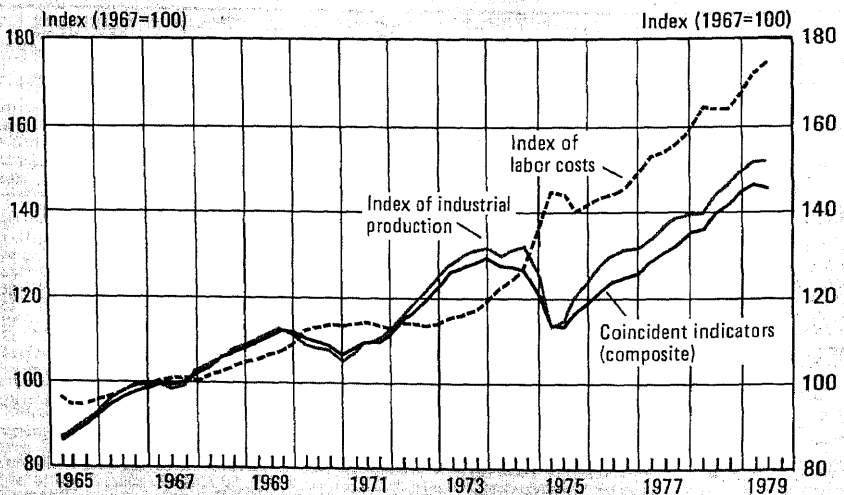


Source: Chart prepared by U.S. Bureau of the Census.  
Data from U.S. Bureau of Economic Analysis.

Figure 18.2

### Composite Coincident Indicators and Indexes of Industrial Production and Labor Costs: 1965 to 1979

(See table 930)



Source: Chart prepared by U.S. Bureau of the Census.  
Data from U.S. Bureau of Economic Analysis.



# NO. 915. PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS—NUMBER AND BUSINESS RECEIPTS, BY SIZE OF RECEIPTS: 1965 TO 1975

[See headnote, table 914, and *Historical Statistics, Colonial Times to 1970*, series V 1-12]

SIZE CLASS OF RECEIPTS	1965		1970		1975							
	Number (1,000)	Re-ceipts (bil. dol.)	Number (1,000)	Re-ceipts (bil. dol.)	Total		Number (1,000)			Receipts (bil. dol.)		
					Number (1,000)	Re-ceipts (bil. dol.)	Propri- etor- ships	Part- ner- ships <sup>1</sup>	Cor- pora- tions <sup>1</sup>	Propri- etor- ships	Part- ner- ships <sup>1</sup>	Cor- pora- tions <sup>1</sup>
Total-----	11,417	1,393	12,001	2,036	13,979	3,446.9	10,882	1,073	2,024	339.2	146.0	2,961.7
Under \$25,000 <sup>2</sup> -----	8,190	51	8,200	51	9,107	54.7	8,088	550	460	48.3	4.0	2.4
\$25,000-\$49,999-----	1,209	42	1,302	46	1,519	53.1	1,192	141	186	42.6	5.1	5.4
\$50,000-\$99,999-----	845	58	1,000	71	1,247	86.3	852	134	261	59.6	9.6	17.1
\$100,000-\$199,999-----	536	73	661	93	1,575	330.2	461	114	674	63.4	16.2	154.7
\$200,000-\$499,999-----	359	108	474	146			235	91		68.2	27.7	
\$500,000-\$999,999-----	138	94	181	126	249	168.7	39	26	184	26.4	17.4	124.9
\$1,000,000 or more-----	139	969	182	1,503	284	2,753.9	15	19	250	30.7	66.0	2,657.2
PERCENT DISTRIBUTION												
Under \$25,000 <sup>2</sup> -----	71.7	3.7	68.3	2.5	65.1	1.6	74.4	51.2	23.2	14.2	2.7	.1
\$25,000-\$49,999-----	10.6	3.0	10.8	2.3	10.9	1.5	11.0	13.1	9.2	12.6	3.5	.2
\$50,000-\$99,999-----	7.4	4.1	8.3	3.5	8.9	2.5	7.8	12.5	12.9	17.6	6.6	.6
\$100,000-\$199,999-----	4.7	5.2	5.5	4.6	11.3	9.6	4.2	10.6	33.3	19.0	11.1	5.2
\$200,000-\$499,999-----	3.1	7.7	4.0	7.2			2.1	8.4		20.1	18.9	
\$500,000-\$999,999-----	1.2	6.7	1.5	6.2	1.8	4.9	.3	2.4	9.1	7.8	11.9	4.2
\$1,000,000 or more-----	1.2	69.5	1.5	73.8	2.0	79.9	.1	1.7	12.4	9.0	45.4	89.7

<sup>1</sup> Active firms only. <sup>2</sup> Includes firms with no receipts.

Source: U.S. Internal Revenue Service, *Statistics of Income, Business Income Tax Returns*, annual, and *Statistics of Income, Corporation Income Tax Returns*, annual.

# NO. 916. PROPRIETORSHIPS, PARTNERSHIPS, AND CORPORATIONS—NUMBER, RECEIPTS<sup>1</sup> AND NET INCOME, BY INDUSTRY AND SIZE OF BUSINESS RECEIPTS: 1975

[Number in thousands; receipts and profit in millions of dollars. See headnote, table 914. See *Historical Statistics, Colonial Times to 1970*, series V 42-53, for number of active corporations]

INDUSTRY	PROPRIETORSHIPS <sup>1</sup>			ACTIVE PARTNERSHIPS			ACTIVE CORPORATIONS		
	Under \$50,000 <sup>2</sup>	\$50,000-\$99,999	\$100,000 or more	Under \$100,000 <sup>2</sup>	\$100,000-\$499,999	\$500,000 or more	Under \$500,000	\$500,000-\$999,999	\$1,000,000 or more
<b>All industrial divisions:<sup>3</sup></b>									
Number	9,279	852	751	824	205	44	1,590	184	249
Business receipts <sup>4</sup>	90,979	59,627	188,615	18,645	43,914	83,452	189,905	129,473	2,801,020
Net income <sup>5</sup>	16,118	11,932	16,561	-3,255	4,704	6,229	10,049	5,398	154,036
<b>Agriculture, forestry, and fishing:</b>									
Number	3,027	222	118	95	24	4	49	4	4
Business receipts <sup>4</sup>	27,516	15,201	26,573	2,508	4,842	5,204	5,777	2,785	18,062
<b>Mining:</b>									
Number	44	5	7	13	2	1	133	30	54
Business receipts <sup>4</sup>	361	319	2,851	159	467	3,375	21,074	21,047	1,216,217
<b>Construction:</b>									
Number	752	71	69	44	14	3	65	7	9
Business receipts <sup>4</sup>	9,114	5,003	10,896	1,534	2,779	8,036	7,678	5,094	221,917
<b>Manufacturing:</b>									
Number	180	21	21	21	7	2	10	2	2
Business receipts <sup>4</sup>	1,925	1,558	5,196	528	1,367	4,948	1,244	1,200	61,226
<b>Transport and public utilities:<sup>6</sup></b>									
Number	313	28	14	14	3	1	143	23	25
Business receipts <sup>4</sup>	4,357	1,853	3,798	375	579	1,497	21,327	16,378	105,708
<b>Wholesale and retail trade:</b>									
Number	1,528	261	404	110	68	15	409	83	123
Business receipts <sup>4</sup>	18,274	18,670	111,384	3,762	15,040	26,367	69,207	58,849	823,408
<b>Finance, insurance, and real estate:</b>									
Number	696	33	15	383	42	10	383	11	18
Business receipts <sup>4</sup>	6,201	2,257	3,680	6,030	8,915	17,461	20,593	7,939	287,265
<b>Services:</b>									
Number	2,720	210	104	145	45	9	398	23	15
Business receipts <sup>4</sup>	23,122	14,719	18,156	3,746	9,920	16,501	42,874	16,051	66,822

<sup>1</sup> Individually owned businesses and farms. <sup>2</sup> Includes businesses without receipts. <sup>3</sup> Includes businesses not allocable to individual industries. <sup>4</sup> See footnote 2, table 914. <sup>5</sup> Less loss. See footnote 3, table 914.

<sup>6</sup> Includes sanitary services. <sup>7</sup> For partnerships and corporations, total receipts (which include investment income), rather than business receipts, were used as the size classifier and for the amounts shown.

Source: U.S. Internal Revenue Service, *Statistics of Income, 1975, Business Income Tax Returns*, annual; and *Statistics of Income, 1975, Corporation Income Tax Returns*, annual.

## No. 917. WOMEN-OWNED FIRMS—NUMBER AND RECEIPTS, BY INDUSTRY: 1972

[A firm is considered to be women-owned if one-half or more of the partners are women; a corporation is classified as women-owned if 50 percent or more of the stock is owned by women. The same criteria applies to minority-owned businesses]

INDUSTRY	FIRMS (1,000)			RECEIPTS (bil. dol.)		
	All firms <sup>1</sup>	Women-owned		All receipts <sup>1</sup>	Women-owned	
		Number of firms	Percent of all firms		Re-ceipts	Percent of all firms
All industries, total.....	8,730	402	4.6	2,381.2	8.1	.3
Construction.....	1,020	15	1.5	146.2	.5	.3
Manufacturing.....	437	8	1.8	875.3	.3	(Z)
Transportation and public utilities.....	2,432	7	1.6	159.5	.1	.1
Wholesale trade.....	560	5	.9	349.4	.6	.2
Retail trade.....	2,381	133	5.6	474.9	4.2	.9
Finance, insurance, and real estate.....	1,318	37	2.8	252.8	.5	.2
Selected services.....	2,212	151	6.3	95.5	1.5	1.6
Other industries and industries not classified.....	370	45	12.2	27.6	.4	1.4

Z Less than .05 percent. <sup>1</sup> Based on data from U.S. Internal Revenue Service, preliminary report, *Statistics of Income, Business Income Tax Returns, 1972*.

<sup>2</sup> Excludes railroads. <sup>3</sup> Adjusted to exclude legal services and architectural and engineering services out-of-scope of women-owned businesses.

Source: U.S. Bureau of the Census, *Women-Owned Businesses, 1972*.

## No. 918. MINORITY-OWNED FIRMS—NUMBER AND RECEIPTS, BY INDUSTRY: 1972

(Number and employment in thousands and receipts in billions of dollars, except percents. Based on a mail canvass, various published and unpublished source listings, and personal contacts with knowledgeable community and governmental representatives, and records of the Internal Revenue Service and the Social Security Administration. "Minority" identified to include the following groups: Black, Chinese, Japanese, Puerto Rican, Mexican or Latin American, American Indian, Filipino, Korean, Hawaiian, etc. See also headnote, table 917)

INDUSTRY	All U.S. firms	BUSINESS FIRMS OWNED BY—					PERCENT CHANGE FROM 1969			
		All minor-ities	Per-cent minor-ities of all firms	Black	Span-ish origin	Other	All minor-ities	Black	Span-ish origin	Other
Number of firms, total <sup>1</sup> .....	8,730	382	4.4	195	120	67	19	20	20	14
With paid employees.....	(X)	76	(X)	32	29	15	-16	-17	-12	-22
With no paid employees.....	(X)	306	(X)	163	91	52	32	31	36	31
Construction.....	1,020	40	3.9	20	17	3	34	24	67	-11
Manufacturing.....	437	9	2.1	4	4	1	18	38	-	19
Transport and public util. <sup>2</sup> .....	432	30	6.9	22	6	2	28	30	29	3
Wholesale trade.....	560	7	1.3	2	3	2	31	26	41	20
Retail trade.....	2,381	121	5.1	57	42	22	25	25	26	22
Finance, insurance, real estate.....	1,318	19	1.4	8	6	5	-15	5	-22	-31
Selected services.....	2,212	120	5.4	68	32	20	19	22	11	21
Business receipts, total <sup>1</sup> .....	2,381.2	16.6	.7	7.2	5.3	4.1	56	60	58	46
Firms with paid employees.....	(X)	12.1	(X)	5.1	3.7	3.3	35	31	32	32
With no paid employees.....	(X)	4.5	(X)	2.1	1.6	.8	163	152	193	143
Construction.....	146.2	1.7	1.2	.8	.6	.3	84	77	125	38
Manufacturing.....	875.3	1.3	.1	.5	.5	.3	95	77	126	88
Transport and public util. <sup>2</sup> .....	169.5	.7	.4	.4	.2	.1	79	102	50	56
Wholesale trade.....	349.4	1.8	.5	.8	.5	.5	91	98	91	82
Retail trade.....	474.9	7.5	1.6	2.9	2.5	2.1	44	51	43	37
Finance, insurance, real estate.....	252.8	.9	.4	.5	.2	.2	59	59	64	54
Selected services.....	95.5	2.1	2.2	1.1	.6	.4	47	59	30	49
Employment, total <sup>1</sup> .....	56,466	456	.8	197	150	109	23	29	18	20
Construction.....	3,398	57	1.7	30	21	6	63	66	78	23
Manufacturing.....	18,690	54	.3	20	21	13	73	66	80	76
Transport and public util. <sup>2</sup> .....	3,895	19	.5	11	5	3	40	42	42	28
Wholesale trade.....	4,075	19	.5	8	6	5	44	37	39	63
Retail trade.....	11,648	173	1.5	58	59	56	3	6	-4	10
Finance, insurance, real estate.....	3,901	28	.7	18	4	6	91	99	74	85
Selected services.....	9,576	98	1.0	49	31	18	21	29	15	12

- Represents zero. X Not applicable. <sup>1</sup> Includes industries not shown separately. <sup>2</sup> Excludes railroads.  
Source: U.S. Bureau of the Census, *Minority-Owned Businesses: 1972*.

### No. 919. FEDERAL GOVERNMENT LOANS TO ALL SMALL BUSINESSES AND TO MINORITY-OPERATED SMALL BUSINESSES: 1968 TO 1978

[For years ending June 30 except, beginning 1977, ending Sept. 30. A small business must be independently owned and operated, must not be dominant in its particular industry, and must meet standards set by the Small Business Administration as to its annual receipts or number of employees]

LOANS APPROVED	1968-1978, <sup>1</sup> cum.	1968-1970, cum.	1971-1978, cum.	1971	1972	1973	1974	1975	1976	1977	1978
Number, all businesses.....1,000..	272.3	42.7	222.8	21.5	28.0	33.9	27.5	22.3	26.1	31.8	31.7
Minority-operated businesses.....1,000..	70.6	13.3	56.0	7.8	9.0	9.1	6.9	5.4	5.5	6.2	6.1
Percent of all businesses.....	26	31	25	36	32	27	25	24	21	19	19
Value of total loans.....mil. dol.	19,490	2,033	16,874	1,128	1,574	2,196	1,948	1,594	2,071	3,049	3,314
Loans to minority-operated businesses.....mil. dol.	2,714	306	2,340	214	258	334	289	229	262	352	402
Percent of all loans.....	14	15	14	19	16	15	15	14	13	12	12

<sup>1</sup> Includes transition quarter, July–Sept. 1976, not shown separately.

Source: U.S. Small Business Administration, unpublished data.

### No. 920. CONSUMER COOPERATIVES, BY TYPE OF ASSOCIATION: 1965 TO 1976

[Members in thousands; business in millions of dollars. Business refers to loans outstanding]

TYPE OF ASSOCIATION	1965			1970			1976		
	Associations	Members	Business	Associations	Members	Business	Associations	Members	Business
Credit unions <sup>1</sup> .....	22,064	16,756	8,098	23,656	22,813	14,106	22,330	<sup>2</sup> 36,802	<sup>2</sup> 42,107
Electric power cooperatives <sup>1</sup> .....	885	4,984	781	875	5,789	1,195	<sup>2</sup> 915	<sup>2</sup> 7,819	<sup>2</sup> 3,940
Rural telephone cooperatives <sup>1</sup> .....	219	485	48	235	609	86	<sup>2</sup> 246	<sup>2</sup> 854	<sup>2</sup> 221
Nonprofit prepayment health plans <sup>1</sup> .....	569	8,684	582	<sup>6</sup> 457	1,018	383		11,462	2,398
Community.....	43	3,400	216	<sup>6</sup> 40	4,900	457	36	6,205	1,176
Employer-employee union.....	507	5,068	366	<sup>6</sup> 418	5,500	559	308	5,095	1,177
Private group medical clinic.....	19	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	162	45
Farm supply cooperatives <sup>7</sup> .....	6,763	(NA)	2,910	6,209	(NA)	3,871	5,538	(NA)	9,412
Principally in farm supply.....	3,065	3,251	2,707	2,775	3,222	2,755	2,781	3,066	8,753
Producers' goods.....	4,400+	(NA)	1,851	4,200+	(NA)	2,399	3,900+	(NA)	6,146
Petroleum products.....	2,773	(NA)	643	2,774	(NA)	862	2,983	(NA)	2,098
Meats and groceries.....	775	(NA)	60	717	(NA)	83	486	(NA)	108
Miscellaneous.....	4,800+	(NA)	356	4,800+	(NA)	527	4,400+	(NA)	1,060

NA Not available. <sup>1</sup> Source: 1965, U.S. Social Security Administration; 1970 and 1976, National Credit Union Administration, *Annual Report of the National Credit Union Administration*. <sup>2</sup> 1977 data. <sup>3</sup> Source: U.S. Rural Electrification Administration, *Annual Statistical Report—Rural Electric Borrowers*. Electric distribution cooperatives currently borrowing from REA, average number of consumers served, and total revenues.

<sup>4</sup> Source: U.S. Rural Electrification Administration, *Annual Statistical Report—Rural Telephone Borrowers*. Cooperatives currently borrowing from REA, number of subscribers at end of year, annual revenues. <sup>5</sup> Source: U.S. Social Security Administration. Independent plans only. Estimated enrollees and annual income of plans.

Enrollment is for most frequent type of benefit X-ray and lab exams. <sup>6</sup> 1968 data. <sup>7</sup> Data for fiscal years ending in year shown. 1976 is preliminary. Since many cooperatives do more than one type of business, totals are less than would be obtained by adding number of cooperatives handling individual items or performing individual services.

Source: Except as noted, U.S. Dept. of Agriculture, Economics, Statistics, and Cooperatives Service, unpublished data.

### No. 921. DETERMINANTS OF BUSINESS FIXED INVESTMENT: 1960 TO 1978

(Percent)

ITEM	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978, prel.
Ratio of real investment to real GNP <sup>1</sup> .....	9.0	10.3	10.2	9.8	10.0	10.6	10.7	9.4	9.4	9.7	10.1
Capacity utilization rate in mfg. <sup>2</sup> .....	80.1	89.5	79.2	78.0	83.1	87.6	84.2	73.6	80.2	82.4	84.2
Nonfinancial corporations:											
Cash flow as percent of GNP <sup>1,3</sup> .....	8.9	10.4	7.9	8.2	8.6	8.0	6.9	8.7	9.1	9.0	9.9
Rate of return—											
Net on depreciable assets <sup>4</sup> .....	11.1	16.3	10.1	10.3	11.5	12.3	11.4	9.3	10.4	10.6	10.6
On stockholders equity <sup>5</sup> .....	5.0	9.0	4.4	5.2	6.4	8.7	8.4	5.2	4.8	6.2	8.9
Ratio of market value to replacement cost of net assets <sup>6</sup> .....	1.02	1.36	.91	1.00	1.08	1.02	.76	.73	.83	.77	.70

<sup>1</sup> GNP=Gross national product. <sup>2</sup> Federal Reserve Board index. For capacity by stage of processing, see table 1411. <sup>3</sup> Cash flow calculated as after-tax profits plus capital consumption allowance plus inventory valuation adjustment. <sup>4</sup> Profits before taxes plus capital consumption adjustment plus net interest paid divided by the stock of depreciable assets valued at current replacement cost. <sup>5</sup> After-tax profits corrected for inflation effects divided by net worth (physical capital component valued at current replacement cost).

<sup>6</sup> Equity plus interest-bearing debt divided by current replacement cost of net assets.

Source: U.S. Council of Economic Advisers, *Economic Report of the President*, annual. Data from U.S. Bureau of Economic Analysis and the Board of Governors of the Federal Reserve System.

# **No. 922. FIXED NONRESIDENTIAL BUSINESS CAPITAL—COST VALUATION IN CURRENT AND CONSTANT (1972) DOLLARS: 1960 TO 1978**

[In billions of dollars. Stocks as of Dec. 31; depreciation over entire calendar year. Data refer to privately owned assets and are based on the fixed capital formation components of the gross national product. Excludes residential capital and government enterprises; includes nonprofit institutions. Gross stocks allow for retirement, net stocks allow for retirement and depreciation. Estimates are based on straight-line depreciation and 85 percent of service lives given in *Bulletin F*, Internal Revenue Service. For single-year figures prior to revisions issued in 1976 and data in constant (1958) dollars, see *Historical Statistics of the United States, Colonial Times to 1970*, series F 480-527.]

ITEM	1960	1965	1970	1972 <sup>1</sup>	1973	1974	1975	1976	1977	1978
CURRENT DOLLARS										
All industries: <sup>2</sup>										
Gross stocks	680.6	837.7	1,339.0	1,582.7	1,814.6	2,135.3	2,392.4	2,600.0	2,871.3	3,206.6
Equipment	336.6	408.4	632.4	726.4	814.2	963.4	1,104.8	1,215.4	1,348.6	1,491.2
Structures	343.9	429.4	706.6	856.4	1,000.3	1,171.9	1,287.6	1,384.5	1,522.6	1,715.4
Net stocks	374.4	474.5	784.8	922.5	1,059.5	1,244.1	1,378.6	1,485.0	1,631.8	1,816.7
Equipment	179.0	220.6	354.0	401.1	451.1	532.8	605.2	660.8	731.0	807.0
Structures	195.4	253.8	430.7	521.5	608.5	711.3	773.4	824.2	900.2	1,009.7
Depreciation	36.7	44.2	71.2	83.6	91.4	107.3	127.9	139.6	152.0	172.4
Equipment	25.4	30.5	49.0	57.1	61.7	71.3	87.0	95.0	103.8	118.1
Structures	11.3	13.7	22.1	26.5	29.7	35.9	40.9	44.6	48.2	54.3
Manufacturing:										
Gross stocks	171.0	205.9	321.6	364.0	410.3	480.1	527.8	566.8	625.3	695.7
Equipment	97.7	118.2	181.7	203.4	226.7	260.8	307.0	341.1	383.0	420.1
Structures	73.4	87.8	139.9	160.6	183.6	210.3	220.8	225.7	242.3	269.0
Net stocks	90.7	108.6	176.1	195.6	220.1	257.0	280.4	301.1	332.5	360.6
Equipment	51.4	62.6	101.1	110.7	123.5	147.4	165.3	184.2	208.2	231.4
Structures	39.2	46.0	75.0	85.0	96.5	110.2	115.1	116.9	124.3	138.2
Depreciation	9.5	11.3	18.2	20.7	22.4	26.0	30.5	32.6	35.7	40.0
Equipment	7.0	8.3	13.3	15.2	16.3	18.8	22.5	24.6	27.4	30.7
Structures	2.5	3.0	4.8	5.5	6.1	7.2	8.0	8.0	8.4	9.3
Nonfarm nonmfg.:										
Gross stocks	453.6	565.8	919.8	1,106.7	1,278.1	1,508.9	1,700.5	1,853.2	2,047.7	2,290.6
Equipment	203.3	249.5	393.6	459.0	517.0	610.8	701.9	767.6	847.5	934.9
Structures	250.3	316.3	526.2	647.8	761.1	898.1	998.5	1,085.6	1,200.2	1,355.7
Net stocks	254.0	323.7	554.2	664.9	769.3	905.1	1,006.9	1,084.1	1,190.0	1,326.4
Equipment	110.0	137.3	222.9	256.9	290.2	341.4	388.6	419.2	460.4	506.7
Structures	144.0	186.4	331.3	408.1	479.1	563.6	618.3	664.9	729.6	819.7
Depreciation	23.7	28.9	47.3	56.6	62.3	73.6	88.4	96.9	105.3	120.2
Equipment	15.5	18.9	31.0	36.8	40.1	46.5	57.3	62.3	67.5	77.4
Structures	8.2	10.0	16.3	19.8	22.3	27.1	31.1	34.6	37.8	42.8
CONSTANT (1972) DOLLARS										
All industries: <sup>2</sup>										
Gross stocks	963.9	1,135.2	1,421.6	1,527.6	1,593.2	1,656.6	1,701.7	1,748.2	1,805.2	1,866.7
Equipment	426.0	500.6	651.4	707.5	745.8	780.6	806.9	832.8	867.6	903.0
Structures	537.9	634.6	770.1	820.1	847.6	875.9	894.7	915.4	937.6	963.7
Net stocks	533.0	645.9	833.7	889.8	928.5	963.7	981.3	1,000.8	1,029.0	1,060.2
Equipment	225.9	269.7	364.4	390.4	413.0	431.8	442.3	453.4	472.1	490.7
Structures	307.1	376.2	469.3	499.4	515.5	532.0	539.0	547.4	556.8	569.6
Depreciation	49.8	58.5	77.0	83.6	87.6	91.9	96.6	99.0	101.7	107.3
Equipment	32.4	38.0	52.1	57.1	60.2	63.7	67.6	69.4	71.8	76.2
Structures	17.4	20.5	25.0	26.5	27.3	28.2	29.0	29.6	30.3	31.2
Manufacturing:										
Gross stocks	254.4	281.6	340.8	353.5	363.8	375.5	380.6	389.7	401.3	413.5
Equipment	130.5	147.9	188.9	200.1	209.1	218.6	223.0	231.9	242.9	253.1
Structures	123.9	133.7	151.9	153.4	154.7	156.9	157.6	157.8	158.4	160.5
Net stocks	134.7	148.3	186.5	190.0	195.3	201.6	202.2	206.8	213.3	219.9
Equipment	68.5	78.2	105.0	108.8	113.9	119.4	120.0	125.2	132.0	137.6
Structures	66.2	70.1	81.5	81.2	81.4	82.2	82.2	81.7	81.2	82.3
Depreciation	13.5	15.2	19.6	20.7	21.5	22.4	23.0	23.4	24.2	25.2
Equipment	9.2	10.5	14.1	15.2	15.9	16.7	17.3	17.7	18.5	19.4
Structures	4.3	4.7	5.4	5.5	5.6	5.6	5.7	5.7	5.7	5.8
Nonfarm nonmfg.:										
Gross stocks	629.9	766.2	979.0	1,068.0	1,120.2	1,168.8	1,205.6	1,239.8	1,282.6	1,329.1
Equipment	260.0	303.9	404.8	447.1	474.7	498.6	518.4	533.3	555.7	579.5
Structures	379.9	462.3	574.2	620.8	645.5	670.2	687.2	706.4	726.8	749.6
Net stocks	354.7	445.8	589.8	640.6	672.2	699.3	714.5	727.7	748.3	771.9
Equipment	134.4	166.2	228.5	249.6	265.9	278.3	286.9	291.7	303.0	315.5
Structures	220.3	282.6	361.3	391.0	406.3	420.9	427.6	436.0	445.3	456.5
Depreciation	31.5	38.2	51.2	56.6	59.7	63.0	66.9	68.6	70.3	75.0
Equipment	19.3	23.4	32.9	36.8	39.2	41.7	45.0	46.1	47.1	51.0
Structures	12.2	14.8	18.4	19.8	20.5	21.3	22.0	22.6	23.2	24.0

<sup>1</sup> For gross and net stocks, constant dollar data tend to be lower than current dollar data. Implicit price deflator is set equal to 1 at midpoint of year; due to inflation during last six months of 1972, implicit price deflator applied to stocks at year-end was greater than 1. Depreciation is considered to occur evenly throughout calendar year, and is deflated at midpoint of year.

<sup>2</sup> Includes farm, not shown separately.

Source: U.S. Bureau of Economic Analysis, *Fixed Nonresidential Business and Residential Capital in the United States, 1926-1976*; *Survey of Current Business*, August 1976, August 1977, and September 1978; and unpublished data.

# **NO. 923. GROWTH RATE OF FIXED BUSINESS CAPITAL PER EMPLOYED PERSON IN PRIVATE BUSINESS: 1947 TO 1978**

[In percent. Rates based on capital valued in constant (1972) dollars. Excludes nonprofit institutions and government enterprises; see also headnote, table 922]

ITEM	1947-1966	1966-1973	1973-1978	1973-1974	1974-1975	1975-1976	1976-1977	1977-1978
Total gross.....	2.0	1.8	1.0	1.6	6.1	-.6	-1.0	-1.3
Plant.....	1.1	1.0	.2	.7	5.3	-1.2	-1.9	-2.0
Equipment.....	4.0	3.0	2.0	2.9	7.1	.2	.2	-.3
Total net.....	2.5	2.1	.5	1.5	5.2	-1.2	-1.3	-1.5
Plant.....	1.9	1.5	-.2	.7	4.6	-1.8	-2.3	-2.3
Equipment.....	3.8	3.1	1.6	2.8	6.1	-.5	.2	-.5

Source: U.S. Bureau of Labor Statistics and U.S. Bureau of Economic Analysis, unpublished data.

# **NO. 924. FIXED NONRESIDENTIAL BUSINESS CAPITAL—AVERAGE AGE OF GROSS STOCKS, CONSTANT (1972) COST VALUATION: 1960 TO 1978**

[Age in years. As of Dec. 31. See headnote, table 922, and *Historical Statistics, Colonial Times to 1970*, series F 516-527]

ITEM	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
All industries: Gross stocks.....	11.9	11.1	10.2	10.2	10.1	10.1	10.1	10.2	10.2	10.2
Equipment.....	7.1	7.0	6.5	6.5	6.4	6.4	6.4	6.5	6.4	6.4
Structures.....	15.7	14.4	13.4	13.4	13.4	13.4	13.5	13.6	13.8	13.8
Manufacturing: Gross stocks.....	10.9	10.9	10.0	10.1	10.0	9.9	10.0	9.9	9.8	9.7
Equipment.....	7.5	7.4	6.8	6.9	6.8	6.8	6.9	6.8	6.7	6.7
Structures.....	14.5	14.6	14.1	14.2	14.3	14.3	14.4	14.4	14.5	14.5
Nonfarm nonmfg.: Gross stocks.....	12.4	11.3	10.3	10.2	10.1	10.1	10.2	10.3	10.3	10.3
Equipment.....	6.9	6.8	6.3	6.3	6.2	6.2	6.2	6.3	6.3	6.2
Structures.....	16.1	14.2	13.1	13.0	13.0	13.0	13.1	13.3	13.4	13.5
Farm: Gross stocks.....	10.9	10.7	10.4	10.6	10.6	10.6	10.6	10.7	10.8	10.9
Equipment.....	7.0	7.1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.7
Structures.....	16.1	15.4	15.4	15.7	15.8	15.8	16.0	16.1	16.3	16.4

Source: U.S. Bureau of Economic Analysis, *Fixed Nonresidential Business and Residential Capital in the United States, 1926-1975*, and unpublished data.

# **NO. 925. FIXED NONRESIDENTIAL INVESTMENT—BY TYPE OF STRUCTURE: 1960 TO 1978**

[In billions of dollars. See headnote, table 926]

TYPE OF STRUCTURE	1960	1965	1970	1973	1974	1975	1976	1977	1978
Investment, total.....	18.2	26.1	37.7	49.0	54.5	53.8	57.3	62.6	76.5
New investment <sup>1</sup> .....	18.3	26.2	37.4	48.6	54.1	53.5	57.0	62.2	76.0
Buildings, excl. farm <sup>1</sup> .....	10.2	16.6	21.6	27.8	29.8	26.6	26.3	28.9	36.5
Industrial.....	2.9	5.7	6.5	6.2	7.9	8.0	7.2	7.7	11.0
Commercial.....	4.2	6.5	9.9	15.7	16.1	13.0	13.0	15.0	18.8
Religious.....	1.0	1.3	.9	.8	.9	.9	1.0	1.0	1.2
Educational.....	.6	.7	.9	.8	.7	.6	.7	.7	.7
Hospital and institutional.....	.6	1.4	2.5	3.2	3.2	3.2	3.4	3.3	3.4
Public utilities.....	4.6	5.7	10.6	14.3	15.6	16.3	19.0	18.8	22.4
Railroads.....	.3	.3	.3	.4	.6	.5	.6	.8	1.0
Telephone and telegraph.....	1.1	1.5	2.9	3.9	4.2	3.6	3.7	4.3	5.3
Electric light and power.....	2.0	2.5	5.5	8.1	8.4	8.9	10.6	11.1	13.4
Gas.....	1.1	1.3	1.6	1.6	1.7	1.3	1.2	1.5	2.2
Petroleum pipelines.....	.1	.1	.3	.3	.8	1.9	2.9	1.2	.5
Farm.....	.8	1.0	1.5	2.1	2.7	2.4	2.6	2.8	3.2
Mining exploration, shafts, and wells.....	2.3	2.4	2.8	3.4	5.0	7.1	8.0	10.3	12.6
Petroleum and natural gas.....	2.2	2.3	2.5	3.0	4.3	6.3	7.1	9.4	11.6
Brokers' commission.....	.2	.3	.4	.5	.5	.5	.5	.5	.6
Net purchase of used structures.....	-.3	-.3	-.1	-.2	-.2	-.1	-.1	-.1	-.1

<sup>1</sup> Includes items not shown separately.

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929-74*; and *Survey of Current Business*, July issues.

## No. 926. BUSINESS EXPENDITURES FOR NEW PLANT AND EQUIPMENT: 1960 TO 1979

[In billions of dollars, except percent. Excludes expenditures of agricultural business, professionals, institutions, and real estate firms, and current account outlays. Based on sample and subject to sampling variability; see text, p. 552. These figures do not agree with the fixed nonresidential investment data mainly because those data exclude investments for equipment; and include investment by farmers, professionals, nonprofit institutions, and real estate firms, and certain outlays to current account. Minus sign (—) denotes decrease. See also *Historical Statistics, Colonial Times to 1970*, series V 306-332]

INDUSTRY	1960	1965	1970	1973	1974	1975	1976	1977	1978	1979 <sup>1</sup>
All industries.....	36.75	54.42	79.71	99.74	112.40	112.78	120.49	135.80	153.82	173.33
Manufacturing.....	15.09	23.44	31.95	38.01	46.01	47.95	52.48	60.16	67.62	77.61
Durable goods.....	7.23	11.50	15.80	19.25	22.62	21.84	23.68	27.77	31.66	37.02
Primary metals <sup>2</sup> .....	1.82	2.54	3.24	3.43	4.95	5.99	5.97	5.68	5.87	6.70
Blast furnaces, steel works.....	1.35	1.57	1.68	1.38	2.12	3.03	2.99	2.67	2.46	2.67
Nonferrous metals.....	.32	.73	1.24	1.67	2.33	2.28	2.16	2.24	2.45	2.82
Electrical machinery <sup>3</sup> .....	.90	1.12	2.27	2.84	2.97	2.31	2.62	3.28	3.98	4.90
Machinery <sup>4</sup> .....	1.25	2.31	3.47	3.42	4.42	4.50	5.03	5.78	6.29	7.51
Transportation equip. <sup>5</sup> .....	1.25	2.54	2.43	3.12	3.75	3.24	3.62	5.32	6.40	7.74
Motor vehicles.....	.79	1.89	1.59	2.28	2.70	2.06	2.45	4.06	4.65	5.40
Aircraft.....	.34	.46	.54	.53	.80	.92	.94	1.02	1.02	1.51
Stone, clay, and glass.....	.75	.92	.99	1.49	1.44	1.42	1.72	1.99	2.46	2.72
Other durables.....	1.26	2.07	3.41	4.96	5.10	4.38	4.73	5.73	6.65	7.45
Nondurable goods.....	7.85	11.94	16.15	18.76	23.39	26.11	28.81	32.39	35.96	40.59
Food and beverages.....	1.34	1.83	2.84	3.11	3.25	3.26	3.75	4.18	4.87	5.09
Paper.....	.77	1.22	1.65	1.86	2.58	2.95	3.27	3.36	3.46	4.85
Chemicals.....	1.55	2.73	3.44	4.46	5.69	6.25	6.68	6.83	7.10	8.30
Petroleum.....	2.89	4.03	5.62	5.45	8.00	10.51	11.62	13.87	15.50	16.70
Rubber.....	.31	.56	.94	1.56	1.47	1.00	1.10	1.45	1.75	1.85
Other nondurables.....	.99	1.58	1.66	2.33	2.39	2.14	2.40	2.70	3.28	3.80
Nonmanufacturing.....	21.66	30.98	47.76	61.73	66.39	64.82	68.01	75.64	86.19	95.72
Mining.....	1.30	1.46	1.89	2.74	3.18	3.79	4.00	4.50	4.78	5.28
Railroad.....	1.16	1.99	1.78	1.96	2.54	2.55	2.52	2.80	3.32	3.78
Air transportation.....	.66	1.22	3.03	2.41	2.00	1.84	1.30	1.62	2.30	2.85
Other transportation.....	1.30	1.68	1.23	1.66	2.12	3.18	3.63	2.51	2.43	3.03
Public utilities.....	5.24	6.13	13.14	18.71	20.55	20.14	22.28	25.80	29.48	32.76
Electric.....	3.62	4.43	10.65	15.94	17.63	17.00	18.80	21.59	24.79	27.71
Communication.....	3.24	5.30	10.10	12.85	13.96	12.74	13.30	15.45	18.16	19.48
Commercial and other <sup>6</sup> .....	8.75	13.19	16.59	21.40	22.05	20.60	20.99	22.97	26.71	28.54
Avg. ann. percent change: <sup>7</sup>										
All industries.....	<sup>7</sup> 4.5	8.2	7.9	12.8	12.7	.3	6.8	12.7	13.3	12.7
Manufacturing.....	<sup>7</sup> 4.9	9.2	6.4	21.2	21.1	4.2	9.5	14.6	12.4	14.8
Nonmanufacturing.....	<sup>7</sup> 4.2	7.4	9.0	8.1	7.6	-2.4	4.9	11.2	13.9	11.1

<sup>1</sup> Estimates based on expected capital expenditures as reported by business in late April and May 1979.

<sup>2</sup> Includes industries not shown separately. <sup>3</sup> Includes equipment. <sup>4</sup> Excludes electrical. <sup>5</sup> Trade, service, construction, finance, and insurance.

<sup>6</sup> Change from prior year shown here; e.g. 1965 from 1960, except as noted. For explanation of average annual percent change, see Guide to Tabular Presentation. <sup>7</sup> Change from 1955.

Source: U.S. Bureau of Economic Analysis, *Survey of Current Business*, monthly.

## No. 927. CAPITAL INVESTED PER EMPLOYEE: 1950 TO 1976

[In thousands of 1972 dollars. Represents all persons working in industries indicated. Asset data based on National Technical Information Service analyses; for a detailed description of methodology, see *The National Wealth of the United States: By Major Sectors and Industries, 1976*, by the Conference Board]

INDUSTRY	1972 Industry code	1950	1960	1970	1976	INDUSTRY	1972 Industry code	1950	1960	1970	1976
Real estate.....	65	958.9	823.1	800.7	752.7	Fabricated metals.....	34	9.9	15.3	18.6	21.6
Public utilities.....	49	165.7	239.7	298.5	367.6	Rubber and plastics.....	30	13.5	18.2	18.8	20.9
Petroleum.....	29	70.4	200.0	140.1	150.9	Finance and insurance.....	60-64	11.0	13.5	17.0	20.1
Communication.....	48	48.5	74.3	102.5	138.2	Lumber and wood.....	24	11.7	10.1	15.6	20.0
Transportation.....	41-47	86.9	104.2	101.7	102.8	Instruments.....	38	12.3	13.8	16.8	19.4
Primary metals.....	33	28.7	45.6	55.2	65.6	Textiles.....	22	7.9	15.7	17.1	18.6
Mining.....	10-14	43.3	61.0	70.1	59.1	Electric machinery.....	36	9.8	9.8	14.9	18.1
Tobacco.....	21	34.1	46.3	49.1	58.7	Misc. manufacturing.....	39	9.4	8.8	14.7	15.7
Chemicals.....	28	34.7	43.9	48.6	55.1	Printing and publ'g.....	27	12.1	9.9	12.8	15.3
Paper.....	26	31.4	33.8	39.3	46.3	Wholesale, retail trade.....	50-59	12.4	13.9	14.6	14.6
Stone, clay, glass.....	32	15.2	26.5	31.5	36.4	Construction.....	15-17	5.2	7.5	10.6	11.7
Transportation equip.....	37	13.7	16.5	23.1	27.2	Furniture and fixtures.....	25	9.2	8.3	8.7	10.0
Nonelectric machinery.....	35	14.8	18.3	22.7	26.5	Leather.....	31	5.3	4.1	6.0	7.1
Food.....	20	20.3	21.1	23.1	25.0	Apparel.....	3	3.3	2.8	4.8	6.1
Services.....	70-89	19.0	18.3	22.5	22.8						

Source: The Conference Board, New York, N.Y., *Road Maps of Industry*, monthly. (Copyright.)

## NO. 928. MANUFACTURING AND TRADE—SALES AND INVENTORIES: 1960 TO 1978

[In billions of dollars, except ratios. Prior to 1960, excludes Alaska and Hawaii. See *Historical Statistics, Colonial Times to 1970*, series V 78-107, for single-year figures prior to minor revisions issued in 1976 and 1978]

ITEM	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>Sales, total.....</b>	<b>730</b>	<b>963</b>	<b>1,290</b>	<b>1,561</b>	<b>1,821</b>	<b>2,104</b>	<b>2,160</b>	<b>2,422</b>	<b>2,701</b>	<b>3,057</b>
Manufacturing.....	371	492	634	757	875	1,018	1,039	1,186	1,335	1,504
Durable goods.....	191	267	339	409	476	531	524	608	699	803
Nondurable goods.....	180	225	295	348	399	487	515	577	636	701
Retail trade.....	220	284	368	449	503	536	585	655	724	799
Durable goods.....	71	94	109	148	170	167	181	217	248	278
Nondurable goods.....	149	190	259	301	334	369	404	438	476	521
Merchant wholesalers.....	140	187	287	355	442	550	536	581	642	754
Durable goods.....	59	83	127	161	196	237	220	247	286	350
Nondurable goods.....	81	104	160	194	246	313	316	334	356	404
<b>Inventories (book value), total <sup>1</sup>.....</b>	<b>95</b>	<b>121</b>	<b>178</b>	<b>203</b>	<b>234</b>	<b>285</b>	<b>285</b>	<b>310</b>	<b>338</b>	<b>379</b>
Manufacturing.....	54	68	102	108	125	158	158	170	180	198
Durable goods.....	32	42	67	70	81	102	102	109	115	129
Nondurable goods.....	21	26	35	38	43	56	56	61	64	68
Retail trade.....	27	34	44	55	63	71	72	79	90	101
Durable goods.....	12	15	18	24	28	33	33	38	43	48
Nondurable goods.....	15	19	26	31	35	38	38	41	47	53
Merchant wholesalers.....	14	18	33	40	46	57	55	61	68	81
Durable goods.....	8	11	20	24	27	34	35	38	44	52
Nondurable goods.....	6	8	13	16	19	22	21	23	24	28
<b>Inventory-sales ratio, total <sup>2</sup>.....</b>	<b>1.56</b>	<b>1.45</b>	<b>1.62</b>	<b>1.50</b>	<b>1.44</b>	<b>1.47</b>	<b>1.58</b>	<b>1.48</b>	<b>1.45</b>	<b>1.41</b>
Manufacturing.....	1.75	1.60	1.90	1.67	1.58	1.65	1.83	1.66	1.58	1.51
Durable goods.....	2.07	1.81	2.33	2.00	1.89	2.05	2.36	2.07	1.93	1.83
Nondurable goods.....	1.42	1.34	1.39	1.28	1.21	1.22	1.28	1.23	1.19	1.14
Retail trade.....	1.45	1.39	1.41	1.40	1.41	1.49	1.45	1.39	1.40	1.44
Durable goods.....	2.02	1.86	2.00	1.83	1.88	2.15	2.16	1.97	1.97	1.97
Nondurable goods.....	1.18	1.16	1.16	1.18	1.17	1.20	1.13	1.10	1.11	1.15
Merchant wholesalers.....	1.22	1.15	1.29	1.27	1.17	1.12	1.24	1.21	1.21	1.19
Durable goods.....	1.69	1.49	1.77	1.72	1.56	1.53	1.88	1.78	1.73	1.67
Nondurable goods.....	.89	.87	.91	.90	.86	.82	.80	.79	.80	.78

<sup>1</sup> Seasonally adjusted, end-of-year data. <sup>2</sup> Average inventories to average monthly sales. Average inventories based on weighted averages of end-of-month figures.

Source: 1960 and 1965, U.S. Bureau of Economic Analysis, *Business Statistics, 1977*; thereafter, U.S. Bureau of the Census, *Current Business Reports*, monthly.

## NO. 929. NONFARM BUSINESS INVENTORIES IN CURRENT AND CONSTANT 1972 DOLLARS: 1960 TO 1978

[In billions of dollars. As of end of year. To ascertain net physical change in nonfarm inventories, book values of beginning and ending inventories of each year are expressed in terms of constant base year prices by means of selected Bureau of Labor Statistics producer (wholesale) price indexes appropriate to each industry. Net increment in deflated book value figures is then converted to a current price basis by index ratios or current prices to base year prices. See text, p. 390, for discussion of Standard Industrial Classification]

CLASS OF INVENTORY	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
<b>CURRENT DOLLARS</b>											
<b>Total.....</b>	<b>111.3</b>	<b>143.0</b>	<b>212.5</b>	<b>225.1</b>	<b>243.9</b>	<b>289.6</b>	<b>363.7</b>	<b>364.0</b>	<b>399.5</b>	<b>438.3</b>	<b>500.7</b>
Manufacturing.....	58.1	75.7	110.8	113.6	120.4	143.6	186.4	187.9	203.9	219.2	248.3
Wholesale trade.....	19.6	28.3	38.3	41.2	45.7	55.2	69.8	68.1	76.6	85.9	101.6
Retail trade.....	25.6	33.1	45.6	51.0	55.9	64.4	72.3	72.1	80.2	89.9	103.4
All other.....	8.1	10.9	17.7	19.2	21.8	26.4	35.2	35.9	38.8	43.3	47.4
<b>CONSTANT (1972) DOLLARS</b>											
<b>Total.....</b>	<b>138.8</b>	<b>172.8</b>	<b>223.6</b>	<b>228.8</b>	<b>237.6</b>	<b>251.8</b>	<b>260.1</b>	<b>249.1</b>	<b>257.6</b>	<b>267.0</b>	<b>278.0</b>
Manufacturing.....	72.4	89.1	117.1	115.4	117.5	123.6	128.6	124.2	126.9	128.8	133.2
Wholesale trade.....	24.3	30.5	40.4	42.0	44.4	47.4	50.6	47.2	50.4	53.7	58.2
Retail trade.....	31.5	39.4	47.3	51.9	54.4	58.2	56.5	54.0	56.7	60.6	62.6
All other.....	10.7	13.8	18.8	19.5	21.3	22.7	24.5	23.6	23.6	23.9	24.1

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929-74*, and *Survey of Current Business*, July issues and March 1979.

## NO. 930. COMPOSITE INDEXES OF CYCLICAL INDICATORS: 1960 TO 1978

[See source for discussion of composite indexes. 1978 figures are preliminary]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>Leading indicators, composite.</b> .....1967=100	71.0	95.1	104.4	131.8	122.1	114.8	128.8	136.4	141.9
Average workweek in manufacturing.....hours	39.7	41.2	39.8	40.7	40.0	39.4	40.1	40.3	40.4
Layoff rate in manufacturing.....percent	2.4	1.4	1.8	.9	1.5	2.1	1.3	1.2	.9
Value of manufacturers' new orders for consumer goods and materials in 1972 dollars.....bil. dol.	214	308	327	433	396	342	391	424	452
Index of net business formation.....1967=100	94.5	99.5	107.1	115.5	111.2	108.9	117.2	126.6	133.0
Index of 500 common stock prices 1941-43=10	55.9	88.2	83.2	107.4	82.8	86.2	102.0	98.2	96.0
Contracts and orders for plant and equipment in 1972 dollars.....bil. dol.	62	94	106	151	149	115	130	146	167
Index of new private housing units authorized.....1967=100	94.3	112.3	118.1	157.1	92.2	80.9	111.8	145.3	142.9
Vendor performance, companies reporting slower deliveries.....percent	36	67	51	88	66	30	54	55	64
Net change in inventories on hand and on order in 1972 dol., <sup>2</sup> smoothed <sup>3</sup> .....bil. dol.	-3	13	(2)	25	6	-20	6	10	16
Change in sensitive prices, <sup>4</sup> smoothed <sup>3</sup> .....percent	-7	.2	.4	1.9	2.5	.1	1.2	.7	1.2
Change in total liquid assets, smoothed <sup>3</sup> .....percent	.3	.7	.5	1.0	.7	.7	.8	.9	.0
Money supply (M2) in 1972 dollars <sup>5</sup> .....bil. dol.	301	384	437	517	505	498	518	538	543
<b>Coincident indicators, composite.</b> .....1967=100	70.3	89.1	108.8	127.4	125.3	115.5	123.7	131.3	140.1
Employees on nonagricultural payrolls.....mil.	54.2	60.8	70.9	76.8	78.3	76.9	79.4	82.3	86.8
Index of industrial production.....1967=100	66.2	89.8	107.8	129.8	129.3	117.8	129.8	137.1	145.2
Personal income less transfer payments in 1972 dollars.....bil. dol.	517	644	780	884	867	852	892	938	986
Mfg. and trade sales in 1972 dol.....bil. dol.	931	1,188	1,383	1,670	1,658	1,553	1,670	1,765	1,862
<b>Lagging indicators, composite.</b> .....1967=100	76.5	86.9	115.5	122.9	138.9	126.5	119.8	125.4	143.1
Index of labor cost <sup>6</sup> .....1967=100	100.6	95.4	112.3	117.1	127.3	143.0	145.9	155.6	160.4
Mfg. trade inventories in 1972 dol.....bil. dol.	123	152	197	220	227	217	225	234	244
Commercial and industrial loans outstanding.....bil. dol.	33	48	85	106	125	125	116	122	136
Average duration of unemployment.....weeks	12.8	11.8	8.6	10.0	9.7	14.2	15.8	14.2	11.9
Ratio, consumer installment debt to personal income.....percent	10.6	12.4	12.1	13.0	13.0	12.4	12.4	13.6	14.5
Average prime rate charged by banks.....percent	4.8	4.5	7.9	8.0	10.8	7.9	6.8	6.8	9.1

<sup>2</sup> Less than \$500,000. <sup>1</sup> Production workers. <sup>2</sup> Changes in book value. <sup>3</sup> Weighted 4-term moving average placed at the terminal month of the span. <sup>4</sup> Producer price index, crude materials excluding foods, feeds, and fibers. <sup>5</sup> Demand deposits and currency plus time deposits at commercial banks other than large CD's. <sup>6</sup> Cost per unit of output in manufacturing.

Source: U.S. Bureau of Economic Analysis, *Handbook of Cyclical Indicators*, May 1977; and, beginning 1976, *Business Conditions Digest*, monthly.

## NO. 931. BUSINESS CYCLE EXPANSIONS AND CONTRACTIONS—MONTHS OF DURATION: 1924 TO 1975

(The lower turning point of a cycle is considered a trough, the upper turning point a peak)

BUSINESS CYCLE REFERENCE DATE		Contraction (trough from previous peak)	Expansion (trough to peak)	CYCLE	
				Trough from previous trough	Peak from previous peak
TROUGH	PEAK				
July 1924.....	October 1926.....	14	27	36	41
November 1927.....	August 1929.....	13	21	40	34
March 1933.....	May 1937.....	43	50	64	93
June 1938.....	February 1945.....	13	80	63	93
October 1945.....	November 1948.....	8	37	88	45
October 1949.....	July 1953.....	11	45	48	56
May 1954.....	August 1957.....	10	39	55	49
April 1958.....	April 1960.....	8	24	47	32
February 1961.....	December 1969.....	10	106	34	116
November 1970.....	November 1973.....	11	36	117	47
March 1975.....		16	(X)	52	(X)
Six (All) cycles, 1945-1975, average.....		11	48	59	58
Four (Peacetime) cycles, 1945-1975, average.....		11	34	45	49

X Not applicable. <sup>1</sup> 7 cycles.Source: U.S. Bureau of Economic Analysis, *Business Conditions Digest*, June 1978.



## No. 932. ACTIVE CORPORATIONS—ASSETS AND LIABILITIES: 1950 TO 1975

[In billions of dollars. See headnote, table 453. For number of income tax returns, see table 935. See also *Historical Statistics, Colonial Times to 1970*, series V 108-127]

ASSETS AND LIABILITIES	1950	1955	1960	1965	1970	1971	1972	1973	1974	1975
<b>Assets</b> .....	<b>598</b>	<b>889</b>	<b>1,207</b>	<b>1,724</b>	<b>2,635</b>	<b>2,889</b>	<b>3,257</b>	<b>3,649</b>	<b>4,016</b>	<b>4,287</b>
Cash.....	71	87	97	117	177	196	228	259	281	290
Notes and accounts receivable <sup>1</sup> .....	109	192	242	392	595	650	762	891	998	1,021
Inventories.....	54	71	91	126	190	199	224	263	312	318
Investments, government obligations.....	110	132	135	157	197	223	240	250	256	316
Other current assets.....	( <sup>2</sup> )	( <sup>2</sup> )	10	32	73	83	100	119	129	145
Mortgage and real estate loans.....	( <sup>3</sup> )	( <sup>3</sup> )	129	( <sup>3</sup> )	328	366	418	463	508	548
Other investments.....	97	180	179	465	406	461	514	556	578	636
Capital assets <sup>4</sup> .....	145	206	293	395	600	634	685	750	831	892
Other assets.....	13	21	28	38	70	78	86	99	123	121
<b>Liabilities</b> .....	<b>598</b>	<b>889</b>	<b>1,207</b>	<b>1,724</b>	<b>2,635</b>	<b>2,889</b>	<b>3,257</b>	<b>3,649</b>	<b>4,016</b>	<b>4,287</b>
Notes and accounts payable <sup>5</sup> .....	47	76	112	174	320	334	386	461	539	536
Other current liabilities.....	( <sup>6</sup> )	( <sup>6</sup> )	365	583	892	1,005	1,163	1,316	1,459	1,577
Bonded debt and mortgages <sup>7</sup> .....	66	98	154	210	363	403	445	493	542	587
Other liabilities.....	262	409	167	220	308	339	376	421	460	490
Capital stock.....	94	113	140	161	201	210	221	228	240	252
Surplus and undivided profits (net) <sup>8</sup> .....	129	193	269	375	551	599	666	730	776	843

<sup>1</sup> Less allowance for bad debts. Includes loans and discounts of banks, except mortgage and real estate loans.

<sup>2</sup> Included partly in "Other investments" and partly in "Other assets."

<sup>3</sup> For 1950 and 1955, included partly in "Notes and accounts receivable" and partly in "Other investments"; for 1965, included in "Other investments."

<sup>4</sup> Less depreciation, amortization, and depletion reserves. Includes land and intangible assets.

<sup>5</sup> Includes bonds, notes, and mortgages payable with maturity of less than 1 year.

<sup>6</sup> Included in "Other liabilities." <sup>7</sup> With maturity of 1 year or more.

<sup>8</sup> Beginning 1970, reduced by cost of treasury stock.

Source: U.S. Internal Revenue Service, *Statistics of Income, Corporation Income Tax Returns*, annual.

## No. 933. ACTIVE CORPORATIONS, BY ASSET SIZE: 1950 TO 1976

[Beginning 1960, figures are estimates based on samples of active corporations filing income tax returns; see Appendix III. See *Historical Statistics, Colonial Times to 1970*, series V 42, for total active corporations]

ASSET SIZE-CLASS	NUMBER OF ACTIVE CORPORATIONS (1,000)						TOTAL ASSETS (bil. dol.)					
	1950	1960	1965	1970	1975	1976, prel.	1950	1960	1965	1970	1975	1976, prel.
<b>Total</b> .....	<b>629.3</b>	<b>1,140.6</b>	<b>1,424.0</b>	<b>1,665.5</b>	<b>2,023.6</b>	<b>2,104.8</b>	<b>598</b>	<b>1,207</b>	<b>1,724</b>	<b>2,635</b>	<b>4,287</b>	<b>4,743</b>
Under \$100,000.....	397.9	2 684.6	2 846.2	2 961.0	2 1,882.3	1,215.7	12	23	28	32	255	38
\$100,000-\$1 mil.....	190.3	389.3	490.7	599.1	735.1	785.1	55	111	143	178	230	230
\$1 mil.-\$10 mil.....	35.6	56.3	73.5	87.0	116.4	127.0	100	159	206	240	310	335
\$10 mil.-\$25 mil.....	4.2	5.8	7.4	9.8	12.2	13.2	85	89	115	153	193	209
\$25 mil.-\$50 mil.....		2.1	2.9	3.9	5.6	6.2		73	99	135	195	218
\$50 mil.-\$100 mil.....	.6	1.1	1.5	2.1	3.1	3.3	42	80	104	145	213	230
\$100 mil.-\$250 mil.....		.8	1.1	1.4	2.1	2.3		119	165	222	331	359
\$250 mil. and over.....	.7	.6	.8	1.2	1.9	2.0	304	552	862	1,530	2,790	3,124
PERCENT DISTRIBUTION												
<b>Total</b> .....	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under \$100,000.....	63.2	2 60.0	2 59.4	2 57.7	2 93.0	57.8	2.1	1.9	1.6	1.2	5.9	.8
\$100,000-\$1 mil.....	30.2	34.1	34.5	36.0	34.9	9.3	9.2	8.3	6.8	6.1	4.8	4.8
\$1 mil.-\$10 mil.....	5.7	4.9	5.2	5.2	6.0	16.7	13.2	12.0	9.8	9.1	7.2	7.1
\$10 mil.-\$25 mil.....	.7	.5	.5	.6	.6	.6	14.2	7.4	6.7	5.8	4.5	4.4
\$25 mil.-\$50 mil.....		.2	.2	.2	.3	.3		6.0	5.7	5.1	4.5	4.6
\$50 mil.-\$100 mil.....	.1	.1	.1	.1	.2	.2	6.9	6.6	6.1	5.5	5.0	4.8
\$100 mil.-\$250 mil.....		.1	.1	.1	.1	.1		9.9	9.6	8.4	7.7	7.6
\$250 mil. and over.....	.1	.1	.1	.1	.1	.1	50.8	45.8	50.0	58.1	65.1	65.9

<sup>1</sup> Includes returns of corporations not reporting balance sheet information.

<sup>2</sup> Includes returns of corporations with zero assets.

Source: U.S. Internal Revenue Service, *Statistics of Income, Corporation Income Tax Returns*, annual, and *Preliminary Report, Statistics of Income, 1976, Corporation Income Tax Returns*.

## NO. 934. WORKING CAPITAL OF NONFINANCIAL CORPORATIONS: 1971 TO 1977

[In billions of dollars, except ratios. As of December 31. Covers all nonfinancial U.S. corporations. For a discussion of methodology, see source]

ITEM	1971	1972	1973	1974	1975	1976	1977
<b>Current assets</b> .....	<b>529.6</b>	<b>599.3</b>	<b>697.8</b>	<b>734.6</b>	<b>756.3</b>	<b>823.1</b>	<b>900.1</b>
Cash on hand and in banks <sup>1</sup> .....	53.3	59.0	66.3	73.0	80.0	85.8	94.2
U.S. Government securities <sup>2</sup> .....	11.0	10.6	12.8	11.3	19.6	26.0	20.9
Receivables from U.S. Government.....	221.1	248.2	288.5	265.5	272.1	292.4	325.7
Inventories.....	200.4	225.7	263.9	318.9	314.7	341.4	375.0
Other current assets.....	43.8	55.8	66.4	65.9	69.9	76.4	84.3
<b>Current liabilities</b> .....	<b>326.0</b>	<b>375.6</b>	<b>450.9</b>	<b>451.8</b>	<b>446.9</b>	<b>487.5</b>	<b>543.1</b>
Payables.....	220.5	282.9	340.3	272.3	261.2	273.2	306.8
Other current liabilities.....	105.5	92.7	110.7	179.5	185.7	214.2	236.3
<b>Net working capital</b> .....	<b>203.6</b>	<b>223.7</b>	<b>246.9</b>	<b>282.8</b>	<b>309.5</b>	<b>335.6</b>	<b>357.0</b>
Liquidity ratio <sup>3</sup> .....	.332	.334	.323	.332	.379	.388	.307
Current ratio <sup>4</sup> .....	1.625	1.595	1.548	1.626	1.693	1.688	1.657

<sup>1</sup> Includes time certificates of deposits. <sup>2</sup> Includes Federal agency issues. <sup>3</sup> Cash plus U.S. Govt. securities plus "other current assets," divided by "current liabilities." <sup>4</sup> "Current assets" divided by "current liabilities."

Source: U.S. Federal Trade Commission and Board of Governors of the Federal Reserve System. In Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, July 1978.

## NO. 935. CORPORATION FEDERAL INCOME TAX RETURNS—SELECTED ITEMS: 1960 TO 1976

[In billions of dollars, except number of returns. Active corporations only. See headnote, table 453. See also *Historical Statistics, Colonial Times to 1970, Series V 129-136*]

ITEM	1960	1965	1970	1971	1972	1973	1974	1975	1976, prel.
Number of returns.....1,000..	1,140	1,424	1,666	1,733	1,813	1,905	1,966	2,024	2,105
Returns with—									
Assets, end of year.....1,000..	1,095	1,380	1,619	1,683	1,759	1,844	1,903	1,952	2,018
Net income.....1,000..	670	915	1,008	1,064	1,140	1,203	1,208	1,226	1,203
Income tax less credits <sup>1</sup> 1,000..	(NA)	(NA)	735	751	772	752	803	733	840
Total receipts.....	849.1	1,194.6	1,750.8	1,906.0	2,171.2	2,557.7	3,089.7	3,198.6	3,605.8
Business receipts.....	802.8	1,120.4	1,620.9	1,763.8	2,007.3	2,361.4	2,854.8	2,961.7	3,341.7
Interest <sup>2</sup> .....	23.6	37.2	71.6	76.1	86.3	113.3	143.0	143.3	155.7
Capital gain, net <sup>3</sup> .....	3.1	5.3	5.5	6.7	9.1	9.1	8.2	8.4	9.5
Net gain, noncapital assets.....	1.9	2.9	5.3	7.6	8.5	7.7	7.0	7.8	8.5
Dividends received, domestic and foreign.....	4.2	6.7	8.7	9.7	11.1	14.8	21.2	14.3	19.8
Receipts not specified.....	13.6	22.0	38.8	42.1	48.9	51.4	55.5	63.1	70.6
Total deductions.....	804.6	1,119.9	1,682.8	1,824.1	2,071.7	2,435.0	2,941.5	3,052.7	3,419.4
Cost of sales and operations.....	577.0	793.0	1,146.3	1,241.3	1,412.5	1,682.5	2,068.1	2,129.9	2,383.6
Interest paid.....	14.6	26.4	62.1	64.7	72.9	99.6	132.9	129.3	134.1
Depreciation, depletion <sup>4</sup> .....	26.9	39.2	59.3	64.3	71.6	80.6	98.4	92.4	99.9
Employee benefits, pension, stock bonus, etc.....	7.2	11.4	19.6	23.0	27.3	31.9	36.6	42.2	50.4
Deductions not specified.....	178.8	249.9	395.5	430.8	487.5	540.5	605.5	658.9	741.4
Receipts less deductions.....	44.5	74.7	67.9	81.9	99.5	122.6	148.2	146.0	186.4
Net income less deficit.....	43.5	73.9	65.9	79.7	96.8	120.4	146.0	142.6	184.8
Income tax <sup>5</sup> .....	21.9	31.7	33.3	37.5	42.9	52.4	66.1	66.1	82.4
Income tax less credits <sup>1</sup> .....	20.6	27.3	27.9	30.2	33.5	39.1	41.1	39.7	49.4
Distributions to stockholders <sup>6</sup> .....	17.2	26.0	32.0	32.6	36.0	41.8	49.3	45.2	56.0

NA. Not available. <sup>1</sup> Credits includes foreign tax, investment, work incentive (WIN) credits (beginning 1972); and U.S. possessions tax credits (beginning 1976).

<sup>2</sup> Includes interest on Government obligations and other interest.

<sup>3</sup> Net long-term capital gain reduced by net short-term capital loss.

<sup>4</sup> Includes amortization.

<sup>5</sup> Income tax is before deductions for foreign tax credit, investment credit, work incentive (WIN) credit (beginning 1972); and U.S. possessions tax credit (beginning 1976). Beginning 1965, includes tax from recomputing prior year investment credit; 1970 and 1971, includes tax surcharge; 1970-1976 includes additional tax for tax preferences; beginning 1973, includes tax from recomputing prior year work incentive (WIN) credit.

<sup>6</sup> Other than own stock.

Source: U.S. Internal Revenue Service, *Statistics of Income, Corporation Income Tax Returns*, annual.

# No. 936. ACTIVE CORPORATIONS—INCOME TAX RETURNS, BY ASSET SIZE AND INDUSTRY: 1976

[See headnote and footnotes, table 453. See also *Historical Statistics, Colonial Times to 1970*, series V 167-183 and V 193-196]

INDUSTRY AND ITEM	Total	ASSET SIZE-CLASS					
		Under 10 mil. dol. <sup>1</sup>	10- 24.9 mil. dol.	25- 49.9 mil. dol.	50- 99.9 mil. dol.	100- 249.9 mil. dol.	250 mil. dol. and over
<b>All industrial divisions: <sup>2</sup></b>							
Number of returns.....	2,104,862	2,077,798	13,181	6,210	3,320	2,309	2,044
Total assets or liabilities..... bil. dol.	4,742.9	602.2	209.2	217.8	230.2	359.2	3,124.3
Total receipts..... bil. dol.	3,605.8	1,281.1	173.4	133.0	126.4	221.4	1,670.5
Total deductions <sup>3</sup> ..... bil. dol.	3,419.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Net income less deficit <sup>4</sup> ..... bil. dol.	184.8	32.2	7.7	6.7	6.0	10.7	121.5
Income tax <sup>5</sup> ..... bil. dol.	82.4	12.9	3.4	3.0	2.6	5.1	55.4
<b>Percent distribution:</b>							
Number of returns.....	100.0	98.7	.6	.3	.2	.1	.1
Total assets or liabilities.....	100.0	12.7	4.4	4.6	4.8	7.6	65.9
Total receipts.....	100.0	35.6	4.8	3.7	3.5	6.1	46.3
Total deductions.....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Net income less deficit <sup>4</sup> .....	100.0	17.4	4.2	3.6	3.2	5.8	65.8
Income tax <sup>6</sup> .....	100.0	15.7	4.1	3.6	3.2	6.2	67.2
<b>Agriculture, forestry, and fishing:</b>							
Number of returns.....	61,893	61,780	86	12	7	8	
Total assets or liabilities..... bil. dol.	23.5	19.5	1.4	.2	.2	2.2	
Total receipts..... bil. dol.	32.3	26.6	1.6	.2	.2	3.7	
<b>Mining:</b>							
Number of returns.....	15,316	14,881	229	73	50	42	41
Total assets or liabilities..... bil. dol.	78.1	9.3	3.6	2.6	3.6	6.5	52.5
Total receipts..... bil. dol.	85.4	11.4	3.3	1.9	2.5	4.2	62.1
<b>Construction:</b>							
Number of returns.....	197,694	197,031	456	123	40	44	
Total assets or liabilities..... bil. dol.	80.0	53.1	7.0	4.2	2.7	13.0	
Total receipts..... bil. dol.	152.6	118.5	9.9	4.9	2.9	16.4	
<b>Manufacturing:</b>							
Number of returns.....	213,512	209,041	2,281	842	453	419	476
Total assets or liabilities..... bil. dol.	1,045.9	110.2	35.0	29.5	31.7	65.5	774.0
Total receipts..... bil. dol.	1,448.4	256.5	62.6	47.7	48.3	92.5	940.8
<b>Transportation and public utilities:</b>							
Number of returns.....	80,585	79,667	362	147	84	105	220
Total assets or liabilities..... bil. dol.	483.7	22.4	5.7	5.3	5.8	16.8	427.7
Total receipts..... bil. dol.	284.1	43.4	6.6	5.9	6.1	11.8	210.3
<b>Wholesale and retail trade:</b>							
Number of returns.....	646,062	643,481	1,610	491	234	150	96
Total assets or liabilities..... bil. dol.	366.3	193.9	24.3	17.2	16.5	23.9	90.5
Total receipts..... bil. dol.	1,100.2	670.5	67.6	48.9	42.5	69.4	201.3
<b>Finance, insurance, real estate: <sup>6</sup></b>							
Number of returns.....	413,911	396,774	7,693	4,383	2,381	1,515	1,165
Total assets or liabilities..... bil. dol.	2,567.6	136.3	125.4	153.8	164.5	234.4	1,753.2
Total receipts..... bil. dol.	354.7	43.3	14.9	17.3	18.1	29.4	231.7
<b>Services:</b>							
Number of returns.....	473,160	472,423	458	137	71	42	29
Total assets or liabilities..... bil. dol.	97.0	67.3	6.8	4.7	4.8	6.6	16.8
Total receipts..... bil. dol.	146.8	111.1	6.7	5.6	5.3	6.4	11.7

NA Not available. <sup>1</sup> Includes returns of corporations with zero assets.

<sup>2</sup> Includes data not shown separately. <sup>3</sup> For deductions detail, see table 935. <sup>4</sup> Excludes wholly tax-exempt interest but includes income from related foreign corporations considered received for tax purposes only.

<sup>5</sup> Income tax before deductions for foreign tax, investment, work incentive (WIN), and U.S. possessions tax credits. Includes additional tax for tax preferences, taxes from recomputing prior year investment and work incentive (WIN) credit. <sup>6</sup> Includes lessors of real property.

Source: U.S. Internal Revenue Service, *Preliminary Report, Statistics of Income, 1976, Corporation Income Tax Returns*.

## No. 937. GROSS DOMESTIC PRODUCT (GDP) OF CORPORATE BUSINESS: 1960 TO 1978

[In billions of dollars, except as indicated. For explanation of GDP, see text, p. 433. Excludes gross product originating in the rest of the world. Capital consumption allowances include capital consumption adjustment. Minus sign (-) denotes decrease. For explanation of average annual percent change, see Guide to Tabular Presentation. See *Historical Statistics, Colonial Times to 1970*, series V 141-166, for single-year figures prior to minor revisions issued in 1976]

ITEM	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978, prel.
<b>GDP</b> .....	<b>291.0</b>	<b>409.8</b>	<b>592.4</b>	<b>708.9</b>	<b>789.5</b>	<b>848.6</b>	<b>918.7</b>	<b>1,038.8</b>	<b>1,160.2</b>	<b>1,307.1</b>
GDP, financial corp. business <sup>1</sup> .....	13.7	17.7	31.8	37.9	37.5	39.8	44.6	50.4	57.0	66.4
GDP, nonfinancial corp. business.....	277.3	392.1	560.6	671.0	752.0	808.8	874.1	988.5	1,103.2	1,240.7
Capital consumption allowances.....	27.5	33.7	55.1	65.4	71.9	84.6	101.3	111.5	120.9	132.5
Indirect business taxes <sup>2</sup> .....	29.9	43.9	66.4	79.3	87.0	92.6	100.4	108.1	117.8	129.1
Domestic income.....	233.6	332.3	470.9	664.3	630.6	671.4	717.1	819.2	921.5	1,045.5
<b>NONFINANCIAL BUSINESS</b>										
<b>GDP, total</b> .....	<b>277.3</b>	<b>392.1</b>	<b>560.6</b>	<b>671.0</b>	<b>752.0</b>	<b>808.8</b>	<b>874.1</b>	<b>988.5</b>	<b>1,103.2</b>	<b>1,240.7</b>
Avg. annual percent change.....	4.4	7.2	7.4	9.4	12.1	7.6	8.1	13.1	11.6	12.5
Capital consumption allowances.....	27.0	32.8	53.1	62.6	68.7	80.8	96.8	108.7	115.6	126.5
Indirect business taxes <sup>2</sup> .....	28.3	41.1	61.8	73.5	80.5	85.7	92.6	99.5	107.8	117.9
Domestic income.....	222.0	318.2	445.7	534.8	602.8	642.3	684.6	782.2	879.8	996.3
Compensation of employees.....	181.1	246.1	377.1	443.8	503.8	552.9	576.9	650.2	732.1	834.1
Corporate profits <sup>4</sup> .....	37.4	66.1	51.6	72.0	76.0	59.5	76.9	101.3	113.9	125.0
Profits before tax.....	39.5	64.4	55.1	75.9	92.7	102.9	101.3	130.2	143.5	167.1
Profits tax liability.....	19.2	27.2	27.3	33.5	39.6	42.7	40.6	53.0	59.0	68.5
Profits after tax.....	20.3	37.2	27.9	42.4	53.1	60.2	60.7	77.2	84.5	98.6
Inventory valuation adjustm't.....	.8	-1.9	-5.1	-6.6	-18.6	-40.4	-12.4	-14.5	-14.8	-24.4
Capital consumption adjustm't.....	-2.3	3.6	1.5	2.7	1.8	-3.0	-11.9	-14.3	-14.7	-17.7
Net interest.....	3.6	6.1	17.0	19.1	23.1	29.9	30.8	30.7	33.7	37.1
<b>1972 DOLLARS</b>										
<b>GDP, total</b> .....	<b>358.9</b>	<b>494.6</b>	<b>600.6</b>	<b>671.0</b>	<b>720.4</b>	<b>695.0</b>	<b>680.0</b>	<b>730.0</b>	<b>769.3</b>	<b>810.4</b>
Avg. annual percent change.....	3.3	6.6	4.0	5.7	7.4	-3.5	-2.2	7.4	5.4	5.3
Capital consumption allowances.....	36.4	43.4	57.4	62.6	65.8	69.4	73.0	75.1	76.5	77.9
Indirect business taxes <sup>2</sup> .....	41.8	54.3	65.7	73.6	78.7	77.9	78.6	82.7	86.0	89.8
Domestic income.....	280.7	397.0	477.5	534.8	575.9	547.7	528.4	572.1	606.9	642.7
<b>GDP current dollar cost and profit per unit <sup>5</sup></b> .....	<b>.773</b>	<b>.793</b>	<b>.933</b>	<b>1.000</b>	<b>1.044</b>	<b>1.164</b>	<b>1.285</b>	<b>1.354</b>	<b>1.434</b>	<b>1.531</b>
Capital consumption allowances.....	.075	.066	.088	.093	.095	.116	.142	.146	.150	.156
Indirect business taxes <sup>2</sup> .....	.079	.083	.103	.110	.112	.123	.136	.136	.140	.146
Compensation of employees.....	.505	.497	.628	.661	.699	.796	.848	.891	.952	1.029
Profits tax liability.....	.053	.055	.045	.050	.055	.061	.060	.073	.077	.081
Profits after tax <sup>4</sup> .....	.051	.079	.041	.057	.050	.024	.053	.066	.071	.070
Net interest.....	.010	.012	.028	.028	.032	.043	.045	.042	.044	.040

<sup>1</sup> Corporations comprising the finance, insurance, and real estate industry. <sup>2</sup> Plus transfer payments less subsidies. <sup>3</sup> Change from 1959. <sup>4</sup> With inventory valuation adjustment and capital consumption adjustment. Represents profit from current production. <sup>5</sup> Per unit of constant dollar gross product. Equals the deflator for gross domestic product of nonfinancial corporate business with the decimal point shifted two places to the left.

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929-74*, and *Survey of Current Business*, July issues and March 1979.

## No. 938. CORPORATE FUNDS—SOURCES AND USES: 1960 TO 1978

[In billions of dollars. Covers nonfarm nonfinancial corporate business]

SOURCE AND USE	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>Sources, total</b> .....	<b>47.6</b>	<b>90.9</b>	<b>104.3</b>	<b>161.7</b>	<b>199.8</b>	<b>190.8</b>	<b>143.8</b>	<b>205.0</b>	<b>239.0</b>	<b>283.4</b>
<b>Internal</b> .....	<b>34.7</b>	<b>56.1</b>	<b>58.9</b>	<b>80.8</b>	<b>83.8</b>	<b>75.7</b>	<b>106.8</b>	<b>124.7</b>	<b>135.3</b>	<b>141.9</b>
Undistributed profits.....	9.8	21.7	9.6	22.5	32.5	39.1	35.1	47.9	50.5	58.6
Adjustments <sup>1</sup> .....	-2.0	1.7	-3.5	-3.9	-16.7	-43.5	-24.1	-28.3	-29.0	-41.3
Capital consumption allowances.....	26.8	32.6	52.7	62.2	68.1	80.0	95.7	105.2	113.9	124.6
<b>External <sup>2</sup></b> .....	<b>12.9</b>	<b>34.9</b>	<b>45.5</b>	<b>80.9</b>	<b>115.9</b>	<b>115.1</b>	<b>37.0</b>	<b>80.3</b>	<b>103.6</b>	<b>141.5</b>
Percent of total.....	27.2	38.3	43.6	50.0	58.0	60.3	25.8	39.2	43.4	49.0
Credit market funds, net.....	11.9	20.5	40.7	58.3	72.7	81.8	37.0	58.2	78.7	89.5
Net new equity issues.....	1.4	-	5.7	10.9	7.9	4.1	9.9	10.5	2.7	2.6
Long-term debt <sup>3</sup> .....	7.2	13.4	28.5	34.4	41.2	47.3	33.9	37.6	49.8	56.8
Short-term debt <sup>4</sup> .....	3.3	7.1	6.5	12.9	23.6	30.3	-6.8	10.2	26.2	30.1
Other.....	1.0	14.4	4.8	22.7	43.3	33.4	-	22.0	24.9	52.1
<b>Uses, total</b> .....	<b>40.6</b>	<b>82.2</b>	<b>95.9</b>	<b>145.8</b>	<b>185.6</b>	<b>179.0</b>	<b>131.9</b>	<b>184.9</b>	<b>212.3</b>	<b>268.9</b>
Capital expenditures.....	38.0	62.0	80.3	100.3	123.3	134.7	99.9	141.2	164.6	194.9
Increase in financial assets.....	2.7	20.2	15.6	45.6	62.3	44.4	32.0	43.7	47.8	74.0
<b>Discrepancy (sources less uses)</b> .....	<b>7.0</b>	<b>8.8</b>	<b>8.4</b>	<b>15.9</b>	<b>14.2</b>	<b>11.8</b>	<b>11.9</b>	<b>20.1</b>	<b>26.7</b>	<b>14.5</b>

- Represents zero. <sup>1</sup> Inventory valuation and capital consumption adjustment. <sup>2</sup> Net increases in liability. <sup>3</sup> Corporate bonds, multi-family and commercial mortgages, and 40 percent of bank loans. <sup>4</sup> Sixty percent of bank loans, commercial paper, acceptances, finance company loans, and Government loans.

Source: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts, 1948-1976*, and *1968-1978*.

## No. 939. CORPORATE PROFITS, TAXES, AND DIVIDENDS: 1950 TO 1978

[In billions of dollars. Prior to 1960, excludes Alaska and Hawaii. Covers corporations organized for profit. Represents profits accruing to U.S. residents, without deduction of depletion charges and exclusive of capital gains and losses; intercorporate dividends from profits of domestic corporations are eliminated; net receipts of dividends and branch profits from abroad are added]

ITEM	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978, prel.
Profits before taxes.....	42.6	48.4	48.5	75.2	71.5	96.2	115.8	126.9	120.4	156.0	177.1	206.0
Less: Income tax liability.....	17.9	22.0	22.7	30.9	34.5	41.5	48.7	52.4	49.8	63.8	72.6	84.5
Equals: Profits after taxes.....	24.7	26.4	25.8	44.3	37.0	54.6	67.1	74.5	70.6	92.2	104.5	121.5
Less: Net dividends <sup>2</sup> .....	8.8	10.3	12.9	19.1	22.9	24.6	27.8	31.0	31.9	37.5	42.1	47.2
Equals: Undistributed profits.....	15.9	16.1	13.0	25.2	14.1	30.0	39.3	43.6	38.7	54.7	62.4	74.3
Capital consumption allowances <sup>3</sup> .....	8.8	17.4	25.3	37.4	56.6	67.9	73.7	81.6	89.2	97.1	109.3	119.8
Profits after tax plus capital consumption allowances.....	33.5	43.8	51.1	81.7	93.6	122.5	140.8	156.1	159.8	189.3	213.8	241.3

<sup>1</sup> Federal and State.

<sup>2</sup> Represents amounts disbursed to U.S. residents, measured after eliminations of intercorporate dividends.

<sup>3</sup> Without capital consumption adjustment. Includes depreciation and accidental damages.

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929-74*, and *Survey of Current Business*, July issues.

## No. 940. CORPORATE PROFITS BEFORE TAXES: 1950 TO 1978

[In billions of dollars. Profit figures are with inventory valuation adjustment and without capital consumption adjustment. 1977 and 1978 data are preliminary]

ITEM	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
Total.....	37.6	46.7	48.9	73.3	66.4	89.6	97.2	86.5	107.9	141.4	159.1	177.6
Domestic industries.....	36.7	45.1	47.0	70.1	62.6	84.7	90.4	76.9	101.8	133.2	149.5	167.7
Financial.....	3.1	4.8	7.2	7.5	12.6	15.4	16.2	14.4	13.0	17.5	20.9	25.1
Nonfinancial.....	33.5	40.3	39.8	62.5	50.1	69.3	74.1	62.5	88.9	115.6	128.6	142.6
Manufacturing.....	20.9	26.0	23.9	38.3	27.1	40.6	44.1	36.6	48.3	65.6	74.7	85.0
Wholesale and retail trade.....	5.0	5.0	4.9	7.9	9.4	13.3	14.7	12.9	20.7	24.0	24.0	22.7
Other.....	7.6	9.2	10.9	18.3	13.5	15.4	15.3	13.0	19.9	26.1	29.9	34.9
Rest of the world.....	1.0	1.6	1.9	3.3	3.8	4.8	6.8	9.6	6.1	8.2	9.6	9.8

Source: U.S. Council of Economic Advisers, *Economic Report of the President*, annual. Data from U.S. Bureau of Economic Analysis.

## No. 941. CORPORATE PROFITS, BY INDUSTRY: 1960 TO 1978

In billions of dollars. Profits are without inventory valuation and capital consumption adjustments. Minus sign (-) denotes loss. See headnote, table 939]

YEAR	All industries	Manufacturing	Wholesale, retail trade	Finance, insurance, real estate <sup>1</sup>	Communication <sup>2</sup>	Construction <sup>1</sup>	Services	Transportation	Mining	Agriculture <sup>3</sup>	Rest of the world
<b>BEFORE TAXES</b>											
1960.....	48.5	23.7	4.9	8.3	6.5	.6	.8	.9	.8	.1	1.9
1965.....	75.2	39.4	8.6	8.9	8.9	1.5	1.5	2.2	.9	.2	3.3
1970.....	71.5	29.7	11.3	13.7	8.5	1.9	1.6	.1	.9	.1	3.8
1973.....	115.8	54.2	21.4	16.7	7.8	2.1	3.1	1.2	1.5	.8	6.8
1974.....	126.9	58.9	25.3	14.9	6.7	2.3	2.9	2.0	3.8	.4	9.6
1975.....	120.4	54.4	25.4	13.5	9.0	2.7	4.0	.8	3.8	.7	6.1
1976.....	156.0	72.5	28.3	19.4	12.6	3.0	5.3	2.7	3.5	.5	8.2
1977.....	177.1	79.9	29.5	26.2	15.2	3.3	6.3	3.3	3.3	.4	9.8
1978.....	206.0	92.9	33.8	33.0	16.8	3.1	7.8	4.5	3.5	.4	10.2
<b>AFTER TAXES</b>											
1960.....	25.8	12.4	2.5	4.2	3.2	.2	.4	.3	.7	(Z)	1.9
1965.....	44.3	22.5	5.3	4.5	4.9	1.0	.8	1.3	.6	.1	3.3
1970.....	37.0	14.8	6.5	5.7	4.4	1.1	.6	-.3	.6	(Z)	3.8
1973.....	67.1	30.2	13.9	6.6	4.6	1.1	1.9	.4	1.1	.5	6.8
1974.....	74.5	33.6	16.8	4.4	3.8	1.3	1.6	.9	2.6	(Z)	9.6
1975.....	70.6	29.9	17.2	3.5	6.6	1.6	2.6	(Z)	2.6	.4	6.1
1976.....	92.2	39.4	18.9	6.9	9.1	1.7	3.6	1.6	2.4	.3	8.2
1977.....	104.5	42.5	19.3	11.6	10.9	1.8	4.2	2.1	2.1	.1	9.8
1978.....	121.5	50.0	21.9	15.1	11.9	1.7	5.3	2.9	2.3	.1	10.2

NA Not available. Z Less than \$50 million. <sup>1</sup> Company basis, based on the 1972 Standard Industrial Classification (SIC); see text, p. 390. <sup>2</sup> Includes public utilities. <sup>3</sup> Includes forestry and fisheries.

Source: U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States, 1929-74*, and *Survey of Current Business*, July issues.

# NO. 942. LARGE MANUFACTURING CORPORATIONS—SALES, PROFITS, AND DIVIDENDS FOR SELECTED INDUSTRIES: 1970 TO 1978

[In billions of dollars. Includes all public manufacturing corporations with sales of \$700 million or more for which a consistent set of data could be constructed. A few companies with sales of \$500 million to \$700 million are included to obtain increased representation in a particular industry]

INDUSTRY	1970	1975	1976	1977	1978	INDUSTRY	1970	1975	1976	1977	1978
Total (170 corp.): <sup>1</sup>						Primary metals and products (23):					
Sales, net.....	304.9	586.9	667.8	748.8	842.4	Sales, net.....	30.8	48.6	54.0	58.7	68.4
Profits before taxes.....	29.3	60.4	71.9	79.0	88.2	Profits before taxes.....	2.1	2.9	2.8	2.1	3.0
Profits after taxes.....	16.6	27.0	34.7	37.8	43.9	Profits after taxes.....	1.3	1.8	1.7	1.6	2.5
Dividends.....	10.0	12.5	14.5	17.6	18.5	Dividends.....	.9	.9	.9	1.1	1.0
Food and kindred products (28):						Machinery (27):					
Sales, net.....	32.0	57.1	62.6	68.4	77.1	Sales, net.....	46.2	79.0	87.3	96.8	111.9
Profits before taxes.....	3.1	5.0	5.8	6.0	6.9	Profits before taxes.....	4.9	8.7	11.3	13.2	15.4
Profits after taxes.....	1.6	2.5	2.9	3.2	3.8	Profits after taxes.....	2.6	4.8	6.2	7.2	8.5
Dividends.....	.8	1.1	1.3	1.4	1.6	Dividends.....	1.3	2.0	2.4	3.5	3.4
Chemical and allied products (22):						Motor vehicles and equipment (9):					
Sales, net.....	31.1	57.7	64.1	70.3	80.2	Sales, net.....	48.9	85.9	107.6	117.0	140.7
Profits before taxes.....	3.9	7.1	8.2	8.5	9.9	Profits before taxes.....	2.2	3.1	8.9	10.7	10.6
Profits after taxes.....	2.1	3.9	4.5	4.6	5.6	Profits after taxes.....	1.3	1.5	4.9	5.7	5.0
Dividends.....	1.3	1.7	1.9	2.2	2.5	Dividends.....	1.4	1.1	2.1	2.6	2.5
Petroleum refin. (15):											
Sales, net.....	61.4	172.6	196.2	221.7	242.7						
Profits before taxes.....	8.5	26.3	25.9	28.1	29.5						
Profits after taxes.....	5.2	8.6	9.6	10.1	11.4						
Dividends.....	2.9	3.8	4.1	4.6	5.0						

<sup>1</sup> Includes 46 companies in 6 industries not shown separately. Figures in parentheses represent number of corporations.

Source: Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*.

# NO. 943. CORPORATE MANUFACTURING ASSETS AND PROFITS, BY ASSET SIZE: 1970 TO 1978

[Corporations and assets as of end of 4th quarter; profit for entire year. Corporations under \$10 million based on sample; \$10 million and over based on complete canvass. For further detail regarding methodology, see source for fourth quarter, 1978]

YEAR AND ITEM	Total	ASSET-SIZE CLASS						
		Under \$10 mil.	\$10-\$25 mil.	\$25-\$50 mil.	\$50-\$100 mil.	\$100- \$250 mil.	\$250 mil.- \$1 bil.	\$1 bil. and over
1970 <sup>1</sup>								
Corporations.....number.....	197,807	<sup>2</sup> 195,000	1,202	533	366	289	218	102
Assets, total.....mil. dol.....	578,234	69,101	20,471	20,138	25,946	47,783	112,475	282,320
Percent.....	100.0	12.0	3.5	3.5	4.5	8.3	19.5	48.8
Net profit, total <sup>3</sup> .....mil. dol.....	28,572	2,812	811	836	1,101	2,315	5,862	14,832
Percent.....	100.0	9.8	2.8	2.9	3.9	8.1	20.5	51.9
1975								
Corporations.....number.....	(NA)	(NA)	1,750	705	450	392	276	151
Assets, total.....mil. dol.....	810,910	98,147	31,307	24,720	31,395	62,524	139,113	423,705
Percent.....	100.0	12.1	3.9	3.0	3.9	7.7	17.2	52.3
Net profit, total <sup>3</sup> .....mil. dol.....	49,135	6,212	1,831	1,327	1,676	3,553	8,165	26,370
Percent.....	100.0	12.6	3.7	2.7	3.4	7.2	16.6	53.7
1977								
Corporations.....number.....	(NA)	(NA)	(NA)	809	501	409	327	174
Assets, total.....mil. dol.....	962,996	102,241	35,603	28,595	35,032	63,590	160,107	537,830
Percent.....	100.0	10.6	3.7	3.0	3.6	6.6	16.6	55.8
Net profit, total <sup>3</sup> .....mil. dol.....	70,366	8,683	2,189	1,867	2,252	4,401	11,206	39,769
Percent.....	100.0	12.3	3.1	2.7	3.2	6.3	15.9	56.5
1978								
Corporations.....number.....	(NA)	(NA)	(NA)	874	540	434	344	199
Assets, total.....mil. dol.....	1,086,350	114,070	38,358	30,813	37,522	66,796	165,924	632,806
Percent.....	100.0	10.5	3.5	2.8	3.5	6.1	15.3	58.3
Net profit, total <sup>3</sup> .....mil. dol.....	81,314	9,422	2,487	2,261	2,595	4,709	12,194	47,644
Percent.....	100.0	11.6	3.1	2.8	3.2	5.8	15.0	58.6

NA Not available.

<sup>1</sup> Source: U.S. Securities and Exchange Commission.

<sup>2</sup> Data derived from U.S. Internal Revenue Service, *Statistics of Income*, annual.

<sup>3</sup> After taxes.

Source: Except as noted, U.S. Federal Trade Commission and U.S. Securities and Exchange Commission, *Quarterly Financial Report for Manufacturing, Mining and Trade Corporations*.

# NO. 944. MANUFACTURING CORPORATIONS—SALES, PROFITS, AND STOCKHOLDERS' EQUITY: 1960 TO 1978

[In billions of dollars. Prior to 1970, excludes newspapers. Data are not necessarily comparable from year to year due to changes in accounting procedures, industry classifications, sampling procedures, etc.; for detail, see source. See also *Historical Statistics, Colonial Times to 1970*, series P 93-106]

YEAR	ALL MANUFACTURING CORPS.				DURABLE GOODS INDUSTRIES				NONDURABLE GOODS INDUSTRIES			
	Sales (net)	Profits		Stockholders' equity <sup>1</sup>	Sales (net)	Profits		Stockholders' equity <sup>1</sup>	Sales (net)	Profits		Stockholders' equity <sup>1</sup>
		Before taxes	After taxes			Before taxes	After taxes			Before taxes	After taxes	
1960----	345.7	27.5	15.2	165.4	173.9	14.0	7.0	82.3	171.8	13.5	8.2	83.1
1965----	492.2	46.5	27.5	211.7	257.0	26.2	14.5	105.4	235.2	20.3	13.0	106.3
1970----	708.8	48.1	28.6	306.8	363.1	23.0	12.9	155.1	345.7	25.2	15.7	151.7
1972----	849.5	63.2	36.5	343.4	435.8	33.6	18.4	171.4	413.7	29.6	18.0	172.0
1973----	1,017.2	81.4	48.1	374.1	527.3	43.6	24.8	188.7	489.9	37.8	23.3	185.4
1974----	1,060.6	92.1	53.7	395.0	529.0	41.1	24.7	196.0	531.6	51.0	34.1	199.0
1975----	1,065.2	79.9	49.1	423.4	521.1	35.3	21.4	208.1	544.1	44.6	27.7	215.3
1976----	1,203.2	104.9	64.5	462.7	589.5	50.7	30.8	224.3	613.7	54.3	33.7	238.4
1977----	1,328.1	115.1	70.4	496.7	657.3	57.9	34.8	239.9	670.8	57.2	35.5	256.8
1978----	1,497.8	132.7	81.3	541.4	756.8	69.7	42.0	263.5	741.0	63.0	39.3	277.8

<sup>1</sup> Annual data are average equity for the year (using four end-of-quarter figures).

# NO. 945. MANUFACTURING CORPORATIONS—RELATION OF PROFITS AFTER TAXES TO STOCKHOLDERS' EQUITY AND TO SALES: 1970 TO 1978

[Averages of quarterly figures at annual rates. Based on sample; see source for discussion of methodology]

INDUSTRY GROUP	RATIOS OF PROFITS TO STOCKHOLDERS' EQUITY (percent)							PROFITS PER DOLLAR OF SALES (cents)							
	1970	1973	1974	1975	1976	1977	1978	1970	1973	1974	1975	1976	1977	1978	
All mfg. corporations <sup>1</sup> ----	9.3	12.8	14.9	11.6	14.0	14.2	15.0	4.0	4.7	5.5	4.6	5.4	5.3	5.4	
Durable goods indus.-----	8.3	13.1	12.6	10.3	13.7	14.5	15.9	3.5	4.7	4.7	4.1	5.2	5.3	5.5	
Stone, clay, and glass products-----	6.9	11.2	10.6	8.3	11.9	13.3	16.5	3.6	4.8	4.4	3.4	4.8	5.1	6.0	
Primary metal indus.-----	7.0	10.1	16.5	8.6	8.5	5.0	9.4	4.1	4.6	6.6	4.4	4.0	2.1	3.6	
Iron and steel-----	4.3	9.5	17.0	10.9	9.0	3.6	9.0	2.5	4.1	6.3	5.0	4.1	1.5	3.3	
Nonferrous metals-----	10.6	10.2	15.8	5.0	7.4	7.0	10.1	6.2	5.3	7.0	3.1	3.8	3.3	3.5	
Fabricated metal prod.-----	8.5	13.8	16.0	13.2	15.4	15.7	15.9	3.0	4.0	4.6	4.2	4.8	4.8	4.8	
Machinery, exc. elec.-----	9.8	13.4	13.4	13.7	15.4	16.7	17.2	4.6	5.6	6.0	6.4	7.4	7.6	7.6	
Electrical and elec- tronic equipment-----	9.1	13.0	10.9	9.0	12.8	15.2	16.8	3.3	4.3	3.9	3.2	4.5	5.3	5.7	
Transport equip.-----	6.3	13.1	8.0	7.5	16.0	17.4	16.6	2.3	3.9	2.8	2.4	4.8	5.0	4.7	
Motor vehicles and equip.-----	6.1	15.1	7.1	6.2	17.2	18.7	17.0	2.6	4.5	2.7	2.2	5.5	5.5	4.9	
Aircraft, guided missiles and parts-----	6.8	10.3	10.4	11.0	12.8	15.0	17.1	2.0	2.9	2.9	2.9	3.4	4.2	4.9	
Instruments and re- lated products-----	14.3	15.9	16.3	13.5	14.7	16.9	17.8	7.3	8.4	9.3	7.6	7.9	9.0	9.2	
Other durable goods..	(NA)	(NA)	11.7	8.4	14.2	16.3	17.5	(NA)	(NA)	3.5	2.7	4.2	4.4	4.6	
Nondur. goods indus.-----	10.3	12.6	17.1	12.8	14.2	13.9	14.1	4.5	4.8	6.4	5.1	5.5	5.3	5.3	
Food and kindred products-----	10.8	12.8	13.8	14.4	14.9	13.3	13.8	2.5	2.6	2.9	3.2	3.5	3.1	3.2	
Tobacco manufacts.-----	15.7	14.8	15.6	15.9	15.9	17.5	18.3	5.8	5.8	9.1	9.2	8.5	9.1	9.5	
Textile mill products-----	5.1	9.0	8.0	4.2	8.0	8.6	11.6	1.9	2.8	2.4	1.2	2.4	2.4	3.1	
Paper and allied products-----	7.0	12.9	17.8	12.6	13.8	12.4	12.9	3.4	5.4	7.0	5.6	5.8	5.2	5.3	
Printing and pub- lishing-----	11.2	12.8	13.2	12.8	15.1	17.4	18.6	4.2	4.8	4.7	4.6	5.1	5.7	6.1	
Chemicals and allied products-----	11.4	14.8	18.3	15.2	15.5	15.1	15.5	5.9	6.8	8.4	7.6	7.5	7.2	7.2	
Industrial-----	8.5	13.0	17.6	13.2	14.3	13.5	14.6	5.0	6.5	8.4	6.9	6.9	6.5	6.9	
Drugs-----	17.6	19.0	18.8	17.8	18.1	18.2	18.8	9.4	10.2	12.2	12.2	12.2	12.1	12.5	
Petroleum and coal products-----	11.0	11.6	21.1	12.5	14.1	13.6	13.3	9.3	7.6	12.8	7.6	8.3	7.5	7.1	
Rubber and misc. plastics products-----	7.1	12.0	14.4	8.0	10.8	12.1	10.2	2.7	4.0	5.0	3.0	3.8	4.0	3.2	
Other nondur. goods..	(NA)	(NA)	11.7	11.2	13.2	13.2	14.6	(NA)	(NA)	2.5	2.4	2.8	2.9	3.2	

NA Not available. <sup>1</sup> Beginning 1974, data not strictly comparable with earlier years.

Source of tables 944 and 945: U.S. Federal Trade Commission, *Quarterly Financial Report for Manufacturing, Mining and Trade Corporations*. In U.S. Council of Economic Advisers, *Economic Report of the President*, annual.

# No. 946. SALES BY MAJORITY-OWNED FOREIGN AFFILIATES OF U.S. COMPANIES: 1966 TO 1976

[In billions of dollars, except percent. Universe estimates based on a sample survey covering foreign affiliates with U.S. ownership of at least 50 percent, directly or indirectly held]

INDUSTRY AND AREA OR COUNTRY	1966	1968	1970	1972	1974	1975	1976		
							Total sales	Percent--	
								Local sales <sup>1</sup>	Exports to U.S.
Total <sup>2</sup> .....	97.8	120.8	155.9	211.9	437.7	463.1	514.7	65	7
Petroleum.....	27.5	34.0	42.4	58.8	184.9	183.5	205.5	53	8
Manufacturing <sup>2</sup> .....	47.4	59.6	78.3	107.6	175.7	192.3	212.8	78	7
Food products.....	5.6	6.2	7.5	10.4	17.0	18.3	20.4	90	2
Chemicals and allied products.....	7.4	9.8	12.6	17.8	36.2	37.6	43.1	78	1
Primary and fabricated metals.....	3.9	5.3	7.6	7.6	12.5	12.6	14.4	82	4
Machinery (except electrical).....	6.5	8.6	12.3	17.0	27.4	32.2	34.2	66	5
Electrical machinery.....	4.4	5.1	7.7	10.8	17.4	18.8	18.4	80	5
Transportation equipment.....	11.2	14.2	16.8	24.4	32.7	38.1	44.8	68	16
Trade.....	14.1	16.2	21.6	30.1	46.1	52.2	58.0	60	6
Developed countries.....	71.6	88.0	116.2	158.2	272.2	302.8	337.3	75	6
Canada.....	23.0	29.8	35.1	45.0	71.4	78.5	89.0	77	17
Europe.....	40.5	49.1	68.4	95.9	165.8	186.5	206.7	71	2
Communities (9 countries).....	34.3	41.2	57.6	80.7	138.5	155.8	171.5	74	2
France.....	5.3	6.5	8.3	13.1	22.1	26.1	26.7	82	1
Germany.....	7.7	8.8	14.6	20.5	34.6	38.1	44.3	81	1
United Kingdom.....	13.4	15.1	18.5	24.5	40.3	45.9	48.6	74	2
Other <sup>3</sup> .....	8.0	10.7	16.2	22.5	41.6	45.7	51.9	63	2
Other Europe.....	6.1	7.9	10.9	15.2	27.2	30.7	35.2	60	2
Japan.....	2.1	2.9	4.2	6.7	16.8	17.8	20.1	94	1
Australia, N. Zealand, So. Africa.....	5.1	6.2	8.5	10.6	18.2	20.1	21.5	88	1
Developing countries.....	23.5	29.2	35.1	47.9	148.3	146.6	163.9	43	10
Latin America.....	14.3	17.4	20.1	23.7	51.6	57.3	60.6	70	11
Africa (excl. So. Africa).....	1.8	2.8	3.6	4.5	10.1	10.2	13.2	53	16
Middle East.....	4.0	4.7	5.8	11.1	64.1	57.4	66.5	13	7
Other Asia and Pacific.....	3.3	4.3	5.7	8.6	22.5	21.7	23.6	56	13
International and unallocated.....	2.7	3.6	4.6	5.8	17.2	13.7	13.5	70	8

<sup>1</sup> Local sales represents sales to customers in the country where the affiliate is located. <sup>2</sup> Includes industries not shown separately. <sup>3</sup> Includes Belgium, Denmark, Ireland, Italy, Luxembourg, and the Netherlands.

Source: U.S. Bureau of Economic Analysis, *Survey of Current Business*, March 1978.

# No. 947. FOREIGN-OWNED U.S. FIRMS, BY PERCENT OF FOREIGN OWNERSHIP, BY INDUSTRY, AND BY COUNTRY: 1976

[Covers only firms operating at more than one U.S. location and having 50 or more employees. A firm was defined as foreign-owned if ten percent or more of its equity was owned by a foreign entity. Country refers to location of the home office of the owning entity]

ITEM	Firms <sup>1</sup>	Estab- lish- ments <sup>1</sup>	Em- ploy- ment <sup>2</sup> (1,000)	Annual pay- roll (mil. dol.)	DOMICILE COUNTRY	Firms <sup>1</sup>	Estab- lish- ments <sup>1</sup>	Em- ploy- ment <sup>2</sup> (1,000)	Annual pay- roll (mil. dol.)
Foreign ownership:					All countries.....	657	15,122	423,107	4 10,301
Total <sup>3</sup> .....	657	15,122	823,107	10,301					
Less than 50 percent.....	102	5,155	201,305	2,430	Australia.....	6	143	3,856	40
50-99 percent.....	121	3,292	202,091	2,551	Bahamas.....	6	187	12,135	88
100 percent.....	418	6,368	402,913	5,125	Belgium <sup>5</sup> .....	18	408	16,298	203
Industry:					Bermuda.....	8	269	19,713	248
Agriculture.....	21	82	3,473	33	Canada.....	126	2,673	130,432	1,639
Mining.....	39	305	27,040	455	France.....	39	816	47,665	669
Construction.....	18	54	5,276	78	Great Britain.....	115	2,852	205,928	2,375
Manufacturing.....	351	2,468	430,631	5,736	Hong Kong.....	7	100	7,679	84
Transportation, com- munication, pub. utilities.....	163	836	24,832	390	Japan.....	85	862	47,014	627
Wholesale trade.....	348	4,573	104,554	1,600	Netherlands.....	30	3,303	105,134	1,460
Retail trade.....	77	4,805	137,194	1,010	Neth. Antilles.....	8	166	5,633	79
Finance, insurance, real estate.....	101	1,317	54,268	689	Panama.....	6	128	6,142	87
Services.....	114	682	35,839	310	Sweden.....	29	274	14,543	212
					Switzerland.....	67	966	86,728	1,088
					W. Germany.....	47	1,495	97,063	1,168
					Other.....	60	480	16,376	225

<sup>1</sup> For definition, see text, p. 551.

<sup>2</sup> For week including March 12.

<sup>3</sup> Includes items not shown separately.

<sup>4</sup> Total includes data withheld to avoid disclosure not included in breakdown.

<sup>5</sup> Includes Luxembourg.

Source: U.S. Bureau of the Census, *Selected Characteristics of Foreign-Owned U.S. Firms: 1976-1976*.



# No. 948. CAPITAL EXPENDITURES BY MAJORITY-OWNED FOREIGN AFFILIATES OF U.S. MULTINATIONAL COMPANIES: 1970 TO 1978

[Represents expenditures to acquire, add to, or improve property, plant, equipment. See headnote, table 946]

INDUSTRY AND AREA OR COUNTRY	EXPENDITURES (bil. dol.)							PERCENT OF TOTAL		
	1970	1973	1974	1975	1976	1977	1978 <sup>1</sup>	1970	1975	1978 <sup>1</sup>
<b>Total</b> .....	<b>14.1</b>	<b>20.5</b>	<b>25.3</b>	<b>26.8</b>	<b>24.7</b>	<b>27.5</b>	<b>30.6</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Mining and smelting.....	1.2	1.1	1.1	1.2	.9	.6	.6	8.5	4.5	2.0
Petroleum.....	4.0	6.4	7.8	8.9	7.9	9.3	10.0	28.4	33.2	32.7
Manufacturing.....	6.5	9.2	11.6	11.3	10.9	12.7	14.4	46.1	42.2	46.9
Food products.....	.4	.6	.7	.7	.7	.9	1.0	2.8	2.6	3.4
Paper and allied products.....	.4	.6	.9	.7	.6	.7	.9	2.8	2.6	3.0
Chemicals and allied products.....	1.2	1.4	2.1	2.5	2.7	2.4	2.4	8.5	9.3	7.8
Rubber products.....	.2	.3	.4	.4	.3	.3	.2	1.4	1.5	.8
Primary and fabricated metals.....	.7	.8	.7	.7	.7	.7	.6	5.0	2.6	2.1
Machinery (except electrical).....	1.6	2.6	3.1	2.8	2.7	3.6	4.2	11.3	10.4	13.6
Electrical machinery.....	.6	.9	1.1	.9	.8	1.0	1.1	4.3	3.4	3.5
Transportation equipment.....	1.0	1.2	1.6	1.4	1.4	1.8	2.4	7.1	5.2	7.8
Other.....	.5	.8	1.1	1.3	1.1	1.3	1.5	3.5	4.9	5.0
Trade.....	1.0	1.7	2.1	2.4	1.6	1.8	2.1	7.1	9.0	7.0
Other industries.....	1.4	2.0	2.6	3.1	3.3	3.1	3.5	9.9	11.6	11.3
<b>By area of affiliate:</b>										
Developed countries.....	10.1	14.2	17.8	18.8	17.8	20.4	22.9	71.6	70.1	74.9
Canada.....	3.0	4.2	5.5	5.0	5.0	6.2	6.5	21.3	18.7	21.2
Europe.....	5.7	8.3	10.2	11.7	10.5	12.4	14.0	40.4	43.7	45.8
European Communities (9 countries).....	5.1	7.3	8.8	9.9	8.8	10.7	12.2	36.2	36.9	39.8
France.....	.8	1.3	1.5	1.9	1.2	1.5	1.5	5.7	7.1	5.0
Germany.....	1.2	1.9	2.3	2.1	1.9	2.0	2.6	8.5	7.8	8.6
United Kingdom.....	1.5	2.4	2.7	3.6	3.6	4.7	5.5	10.6	13.4	17.8
Other <sup>2</sup> .....	1.5	1.6	2.4	2.3	2.2	2.5	2.6	10.6	8.6	8.4
Other Europe.....	.6	1.0	1.4	1.8	1.6	1.7	1.8	4.3	6.7	6.0
Japan.....	.5	.6	.8	.8	.6	.8	1.1	3.5	3.0	3.6
Australia, New Zealand, South Africa.....	.9	1.0	1.2	1.2	1.0	1.1	1.3	6.4	4.5	4.3
Developing countries.....	3.3	4.2	5.4	6.4	5.1	5.6	6.5	23.4	23.0	21.2
Latin America.....	2.0	2.3	2.9	3.1	2.6	2.6	3.1	14.2	11.6	10.1
Africa (excl. So. Africa).....	.5	.4	.6	.7	.6	.7	.9	3.5	2.6	2.9
Middle East.....	.2	.8	.8	1.3	1.1	1.4	1.3	1.4	4.9	4.1
Other Asia and Pacific.....	.6	.7	1.1	1.3	.8	.8	1.3	4.3	4.9	4.2
International and unallocated.....	.7	2.1	2.0	1.7	1.8	1.5	1.2	5.0	6.3	3.9

<sup>1</sup> Projection based on survey of Dec. 1978. <sup>2</sup> See footnote 3, table 946.

Source: U.S. Bureau of Economic Analysis, *Survey of Current Business*, March 1979.

## No. 949. LARGEST INDUSTRIAL CORPORATIONS AND RETAILING COMPANIES—SALES, BY GROUP RANK: 1960 TO 1978

[Excludes large privately owned companies that do not publish sales. Includes sales of subsidiaries when they are consolidated. **Industrial corporations:** Includes service and rental revenues, but companies must derive more than 50 percent of revenues from manufacturing or mining for years ending not later than Dec. 31 of year stated, except 1978, no later than January; excludes excise taxes collected by manufacturer. **Retailing companies:** Includes all operating revenues for fiscal years ending not later than March or April following year stated]

RANK BY SALES GROUP	VOLUME OF SALES (bil. dol.)						PERCENT DISTRIBUTION					
	1960	1965	1970	1975	1977	1978	1960	1965	1970	1975	1977	1978
<b>INDUSTRIAL CORPORATIONS</b>												
<b>First 500 largest</b> .....	<b>204.7</b>	<b>298.1</b>	<b>463.9</b>	<b>865.2</b>	<b>1,086.6</b>	<b>1,218.7</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Lowest hundred.....	8.5	12.5	19.9	34.8	41.4	45.3	4.1	4.2	4.3	4.0	3.8	3.7
Second hundred.....	11.7	17.7	28.8	49.0	58.8	66.0	5.7	5.9	6.2	5.7	5.4	5.4
Third hundred.....	18.5	27.7	43.6	78.5	96.7	105.7	9.0	9.3	9.4	9.1	8.9	8.7
Fourth hundred.....	32.6	47.2	82.7	141.8	173.3	199.5	15.9	15.8	17.8	16.4	15.9	16.4
Highest hundred.....	135.4	193.0	288.9	561.1	716.4	802.5	65.2	64.7	62.3	64.9	65.9	65.8
<b>Second 500 largest</b> .....	<b>15.7</b>	<b>(NA)</b>	<b>48.3</b>	<b>82.6</b>	<b>95.4</b>	<b>103.1</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>	<b>(X)</b>
<b>RETAILING COMPANIES</b>												
<b>50 largest</b> .....	<b>135.7</b>	<b>149.0</b>	<b>73.6</b>	<b>121.7</b>	<b>145.3</b>	<b>161.8</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Lowest ten.....	2.2	3.3	4.4	7.5	9.0	9.2	6.2	6.7	5.9	6.2	6.2	5.7
Second ten.....	2.8	4.4	6.8	10.4	12.2	13.3	7.9	9.2	9.3	8.6	8.4	8.2
Third ten.....	4.1	6.1	9.0	14.1	16.2	18.9	11.5	12.4	12.3	11.6	11.2	11.7
Fourth ten.....	6.4	9.0	13.9	23.4	27.0	30.9	18.0	18.3	18.9	19.2	18.6	19.1
Highest ten.....	20.1	26.2	39.4	66.2	80.9	89.5	58.4	53.5	53.6	54.4	55.7	55.3

NA Not available. X Not applicable. <sup>1</sup> Includes wholesalers.

Source: Fortune, New York, N.Y., adapted from *The Fortune Directory*, May, June, and July issues. (Copyright, by Time, Inc.)

# No. 950. LARGEST INDUSTRIAL CORPORATIONS AND RETAILING COMPANIES—ASSETS, NET INCOME, AND EMPLOYEES, BY RANK OF SALES: 1965 TO 1978

(Assets and net income in billions of dollars, employees in thousands, except percent. See headnote, table 949)

RANK BY SALES GROUP	ASSETS <sup>1</sup>				NET INCOME <sup>2</sup>				EMPLOYEES <sup>3</sup>			
	1965	1970	1975	1978	1965	1970	1975	1978	1965	1970	1975	1978
<b>INDUSTRIAL CORPS.:</b>												
<b>First 500 largest.....</b>	<b>251.7</b>	<b>432.1</b>	<b>668.5</b>	<b>898.5</b>	<b>20.1</b>	<b>21.7</b>	<b>37.8</b>	<b>61.5</b>	<b>11,279</b>	<b>14,608</b>	<b>14,413</b>	<b>15,785</b>
Lowest hundred.....	10.1	16.8	19.8	25.5	.7	.8	— .8	1.8	569	697	471	833
Second hundred.....	13.9	23.2	35.5	43.6	1.0	1.1	1.6	2.9	789	1,044	993	1,231
Third hundred.....	22.5	39.0	59.9	78.1	1.6	1.4	3.2	5.9	1,178	1,500	1,570	1,834
Fourth hundred.....	36.5	74.5	113.7	152.2	2.7	3.8	6.3	10.3	1,809	2,662	2,701	3,282
Highest hundred.....	169.0	278.6	439.5	598.9	14.1	14.5	27.5	40.4	6,934	8,706	8,679	8,606
<b>Second 500 largest.....</b>	<b>(NA)</b>	<b>38.8</b>	<b>60.9</b>	<b>74.4</b>	<b>(NA)</b>	<b>1.5</b>	<b>3.3</b>	<b>5.3</b>	<b>(NA)</b>	<b>1,720</b>	<b>1,861</b>	<b>1,844</b>
<b>Percent of total, first 500:</b>												
Lowest hundred.....	4.0	3.9	3.0	2.8	3.7	3.8	— 2.1	2.9	5.0	4.8	3.3	5.3
Second hundred.....	5.5	5.4	5.3	4.9	5.0	4.9	4.2	4.7	7.0	7.1	6.9	7.8
Third hundred.....	8.9	9.0	9.0	8.7	7.8	6.6	8.5	9.6	10.4	10.3	10.9	11.6
Fourth hundred.....	14.4	17.2	17.0	16.9	13.3	17.6	16.7	16.7	16.0	18.2	18.7	20.8
Highest hundred.....	67.1	64.5	65.7	66.7	70.2	67.1	72.8	65.7	61.5	60.0	60.2	54.5
<b>RETAILING COMPANIES:</b>												
<b>50 largest.....</b>	<b>19.3</b>	<b>31.6</b>	<b>50.9</b>	<b>69.5</b>	<b>1.2</b>	<b>1.5</b>	<b>2.4</b>	<b>4.0</b>	<b>1,609</b>	<b>2,371</b>	<b>2,653</b>	<b>2,875</b>
Lowest ten.....	1.5	1.5	5.2	3.2	.1	.1	.2	.1	120	151	197	136
Second ten.....	1.3	2.5	3.7	6.5	.1	.1	.1	.5	103	211	279	357
Third ten.....	2.3	4.5	4.7	8.4	.1	.1	.2	.5	180	294	277	395
Fourth ten.....	3.5	4.8	8.4	10.7	.2	.2	.4	.7	286	366	426	424
Highest ten.....	10.8	18.2	28.9	40.7	.7	1.0	1.5	2.3	920	1,345	1,474	1,503
<b>Percent of total:</b>												
Lowest ten.....	8.0	4.8	10.2	4.6	6.0	5.1	8.4	3.7	7.5	6.4	7.4	4.7
Second ten.....	6.5	7.9	7.3	9.4	5.7	5.9	6.0	11.5	6.4	8.9	10.5	12.4
Third ten.....	11.8	14.3	9.2	12.1	9.9	8.4	7.8	11.2	11.2	12.4	10.4	13.8
Fourth ten.....	18.0	15.3	16.5	15.4	17.9	13.5	15.2	16.3	17.7	15.4	16.1	14.7
Highest ten.....	55.7	57.7	56.8	58.5	60.5	67.1	62.6	57.3	57.2	56.9	55.6	54.4

NA Not available. <sup>1</sup> Total assets employed in business at end of fiscal year, less depreciation and depletion.

<sup>2</sup> After taxes, special charges, and credits. <sup>3</sup> As of year end, or yearly average.

# No. 951. 500 LARGEST INDUSTRIAL CORPORATIONS—SELECTED FINANCIAL ITEMS, BY INDUSTRY: 1970 AND 1978

(Figures are medians based on sales rank in 1970 and 1978. See headnote, table 949. For definition of median, see Guide to Tabular Presentation)

INDUSTRY	ASSETS PER EMPLOYEE (\$1,000)		SALES PER EMPLOYEE (\$1,000)		SALES PER DOLLAR OF STOCK- HOLDERS' EQUITY (DOL.)		RETURN ON STOCK- HOLDERS' EQUITY		RETURN ON SALES (PERCENT)	
	1970	1978	1970	1978	1970	1978	1970	1978	1970	1978
<b>Total.....</b>	<b>24.1</b>	<b>44.0</b>	<b>29.5</b>	<b>63.1</b>	<b>2.36</b>	<b>2.86</b>	<b>9.5</b>	<b>14.3</b>	<b>3.9</b>	<b>4.8</b>
Petroleum refining.....	106.4	234.5	92.6	270.3	1.40	2.99	10.3	13.4	6.9	4.7
Mining, crude oil production.....	70.9	246.4	46.2	180.3	1.21	1.42	13.8	10.1	12.6	8.1
Broadcasting and motion picture.....	(NA)	103.8	(NA)	111.1	(NA)	2.95	(NA)	21.6	(NA)	0.6
Tobacco.....	63.7	92.9	35.9	82.8	1.66	2.35	12.4	15.8	7.5	6.4
Beverages.....	( <sup>1</sup> )	71.5	( <sup>1</sup> )	76.6	( <sup>1</sup> )	2.86	( <sup>1</sup> )	10.5	( <sup>1</sup> )	4.1
Chemicals.....	37.5	68.1	32.7	79.6	1.73	2.27	8.7	13.1	5.2	5.6
Metal manufacturing.....	35.6	62.2	32.8	73.0	1.58	2.81	5.7	10.4	3.2	3.3
Paper, fiber, and wood products.....	32.5	61.1	32.7	75.8	1.79	2.43	6.8	12.9	3.9	5.3
Pharmaceuticals.....	26.4	52.0	29.2	60.5	1.77	1.99	15.5	17.6	9.3	8.7
Glass, concrete, abrasives, gypsum.....	24.2	45.1	25.6	58.4	1.80	2.58	7.6	13.9	4.2	5.8
Publishing, printing.....	25.3	45.7	28.8	58.7	1.19	2.18	11.4	15.8	5.3	8.4
Soaps, cosmetics.....	25.6	43.4	38.5	70.6	2.77	2.76	15.7	16.7	7.1	6.4
Industrial and farm equipment.....	22.1	41.0	27.7	55.7	2.27	2.65	9.5	15.2	4.4	5.5
Food.....	125.0	40.3	152.6	95.4	3.91	4.85	12.2	13.7	12.7	2.8
Rubber, plastic products.....	21.6	38.0	24.7	49.5	2.38	3.47	8.4	10.7	2.1	2.7
Metal products.....	19.9	40.2	26.0	54.0	2.72	3.09	10.1	15.3	3.9	5.5
Transport equipment <sup>2</sup> .....	23.0	37.2	31.9	60.4	1.69	4.27	9.8	15.9	4.2	4.3
Office equipment (incl. computer).....	18.4	38.2	18.7	41.3	1.96	2.10	7.9	15.7	3.3	7.9
Motor vehicles.....	20.7	37.0	27.6	61.1	2.82	3.78	6.0	15.4	2.3	4.2
Measuring, scientific, photo. equip.....	19.1	32.1	25.2	40.8	1.93	2.66	13.1	15.0	7.9	7.3
Aerospace.....	17.8	28.0	27.5	51.5	3.61	3.66	8.5	15.6	2.3	4.6
Musical instr., toys, sporting goods.....	(NA)	32.6	(NA)	43.2	(NA)	3.02	(NA)	10.9	(NA)	4.0
Electronics, appliances.....	17.9	31.0	24.2	44.1	2.54	2.98	10.2	14.9	3.9	4.8
Textiles, vinyl flooring.....	16.3	23.5	20.5	36.9	2.46	3.07	7.0	11.2	2.8	3.8
Apparel.....	11.5	18.1	18.3	32.3	3.29	2.98	10.9	15.6	3.1	3.3

NA Not available.

<sup>1</sup> Beverages included with food. <sup>2</sup> Shipbuilding, R.R., and other (exc. aircraft and motor vehicles).

Source of tables 950 and 951: Fortune, New York, N.Y., *The Fortune Directory*. (Copyright, by Time, Inc.)

# No. 952. LARGEST MANUFACTURING CORPORATIONS—PERCENT SHARE OF ASSETS HELD: 1950 TO 1978

[Corporations ranked on value of assets in each year. Prior to 1970, excludes newspapers. Data prior to 1974 not strictly comparable with later years]

CORPORATION RANK GROUP	1950	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
100 largest.....	39.7	44.3	46.4	46.5	48.5	48.9	47.6	44.7	44.4	45.0	45.4	45.9	45.5
200 largest.....	47.7	53.1	56.3	56.7	60.4	61.0	60.0	56.9	56.7	57.5	58.0	58.5	58.3

Source: U.S. Federal Trade Commission, unpublished data.

# No. 953. LARGEST MANUFACTURING COMPANIES—PERCENT SHARE OF TOTAL VALUE ADDED BY MANUFACTURE: 1947 TO 1972

[1962, 1966, and 1970 based on Annual Survey of Manufactures, other years on Census of Manufactures. "Largest companies" are those which were largest in each of the specified years in terms of value added. For details, see Appendix III. See also *Historical Statistics, Colonial Times to 1970*, series P 177-180]

COMPANY RANK	1947	1954	1958	1962	1963	1966	1967	1970	1972
Largest 50 companies.....	17	23	23	24	25	25	25	24	25
Largest 100 companies.....	23	30	30	32	33	33	33	33	33
Largest 150 companies.....	27	34	35	36	37	38	38	38	39
Largest 200 companies.....	30	37	38	40	41	42	42	43	43

Source: U.S. Bureau of the Census, *Concentration Ratios in Manufacturing Industry: 1972*, MC 72-SR-2.

# No. 954. PATENTS AND TRADEMARKS: 1956 TO 1978

[Covers patents issued to citizens of the United States and residents of foreign countries. For information on copyrights, see table 995. See also *Historical Statistics, Colonial Times to 1970*, series W 96-108]

ITEM	1956-1960	1961-1965	1966-1970	1971-1975	1973	1974	1975	1976	1977	1978
<b>Patent applications filed.....</b>	<b>410,389</b>	<b>463,193</b>	<b>504,613</b>	<b>541,415</b>	<b>109,622</b>	<b>107,448</b>	<b>107,950</b>	<b>109,989</b>	<b>108,992</b>	<b>109,308</b>
Inventions.....	384,782	436,082	476,239	510,409	103,695	102,206	101,014	102,344	100,931	100,916
Designs.....	23,865	25,251	26,260	28,575	5,425	4,780	6,282	7,061	7,258	7,538
Botanical plants.....	584	628	584	688	118	130	150	175	188	194
Reissues.....	1,158	1,232	1,530	1,743	384	332	494	409	615	660
<b>Patents issued.....</b>	<b>251,872</b>	<b>275,443</b>	<b>342,889</b>	<b>396,668</b>	<b>78,618</b>	<b>81,274</b>	<b>76,804</b>	<b>75,400</b>	<b>69,781</b>	<b>70,514</b>
Inventions.....	237,469	259,971	325,144	376,532	74,139	76,275	71,994	70,236	65,269	66,102
Individuals.....	76,589	69,945	73,379	87,082	16,920	18,083	17,192	14,084	14,027	14,259
Corporations:										
U.S.....	133,948	152,537	190,616	192,911	38,615	37,807	34,577	34,391	31,531	31,309
Foreign <sup>1</sup> .....	21,043	30,992	52,771	86,005	16,513	18,686	18,344	19,934	18,220	19,286
U.S. Government.....	5,889	6,497	8,378	9,584	2,082	1,699	1,881	1,827	1,491	1,248
Designs.....	13,024	13,862	16,254	18,675	4,033	4,303	4,282	4,564	3,929	3,862
Botanical plants.....	567	576	426	813	132	261	150	176	173	186
Reissues.....	812	1,034	1,065	1,648	314	435	378	424	410	364
Published applications <sup>2</sup> .....	-	-	586	807	143	135	121	133	105	85
Foreign country residents <sup>3</sup> .....	36,513	48,322	75,986	119,282	22,638	25,632	25,391	26,074	23,886	25,123
<b>Certificates of trademarks issued.....</b>	<b>108,246</b>	<b>106,635</b>	<b>128,465</b>	<b>158,305</b>	<b>31,509</b>	<b>33,612</b>	<b>37,063</b>	<b>33,080</b>	<b>31,918</b>	<b>35,084</b>
Trademarks.....	90,727	91,946	104,181	129,413	26,112	28,099	30,931	28,326	25,858	29,630
Trademark renewals.....	17,519	14,689	24,284	28,892	5,397	5,513	6,132	6,754	6,060	5,454

- Represents zero. <sup>1</sup> Includes patents assigned to foreign governments.

<sup>2</sup> Abstracts of the technical disclosure of patent applications published at request of applicant or owner. The current practice, called "Defensive Publications," began in November 1968.

<sup>3</sup> Includes patent inventions and a small number of patents for designs and botanical plants.

Source: U.S. Patent and Trademark Office. Fiscal-year figures are published in the *Commissioner of Patents and Trademarks Annual Report*.

# No. 955. NEW BUSINESS CONCERNS AND BUSINESS FAILURES: 1960 TO 1978

[See also *Historical Statistics, Colonial Times to 1970*, series V 21-24]

FORMATIONS AND FAILURES	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>Business formations:</b>										
Index, net formations <sup>1</sup>										
(1967=100).....	94.5	99.5	107.1	115.5	115.5	111.2	108.9	117.2	126.6	133.0
New incorporations <sup>2</sup> .....	183	204	264	317	329	319	326	376	436	478
Failures, number <sup>3</sup> .....	1,000	15.4	13.5	10.7	9.6	9.3	9.9	11.4	9.6	6.6
Rate per 10,000 concerns.....	57	53	44	38	36	38	43	35	28	24

<sup>1</sup> Source: U.S. Bureau of Economic Analysis. <sup>2</sup> Prior to 1960, excludes Alaska. <sup>3</sup> See footnote 2, table 959.

Source: Except as noted, Dun & Bradstreet, Inc., New York, N.Y., *Monthly New Business Incorporation Report*.

# No. 956. MERGERS AND ACQUISITIONS—MANUFACTURING AND MINING CONCERNS ACQUIRED: 1925 TO 1977

[Prior to 1972, totals limited to actions reported by Moody's Investors Service, Inc., and Standard & Poor's Corporation. Included are partial acquisitions when they comprise whole divisions or subsidiaries of other companies. See also *Historical Statistics, Colonial Times to 1970*, series V 38]

PERIOD	Concerns acquired, aggregate for period	Year	All concerns acquired, total	LARGE CONCERNS (ASSETS OF \$10 MILLION OR MORE) ACQUIRED <sup>1</sup>					
				Number of mergers			Assets acquired (mil. dol.)		
				Total	Horizontal and vertical	Conglom-erate	Total	Horizontal and vertical	Conglom-erate
1925-1929	4,583	1960	844	51	14	37	1,535	453	1,082
1930-1934	1,687	1965	1,008	64	16	48	3,254	573	2,681
1935-1939	577	1969	2,307	138	24	114	11,043	2,915	8,128
1940-1944	906	1970	1,351	91	12	79	5,904	1,174	4,730
1945-1949	1,505	1971	1,011	59	8	51	2,460	578	1,882
1950-1954	1,424	1972	911	60	24	36	1,885	773	1,112
1955-1959	3,365	1973	874	64	25	39	3,149	1,093	2,056
1960-1964	4,366	1974	802	62	24	38	4,466	1,417	3,049
1965-1969	8,213	1975	439	59	7	52	4,950	267	4,683
1970-1974	4,749	1976	559	81	18	63	6,279	1,031	5,248
1975-1977	1,588	1977	590	99	30	69	8,670	1,937	6,733

<sup>1</sup> Concerns for which financial data are publicly available.

Source: U.S. Federal Trade Commission, *Report on Corporate Mergers and Acquisitions, 1955; Current Trends in Merger Activity, 1971*; and *Statistical Report on Mergers and Acquisitions*, annual.

# No. 957. MERGERS AND ACQUISITIONS—MANUFACTURING AND MINING CONCERNS ACQUIRED, BY INDUSTRY GROUP OF ACQUIRING CONCERN: 1960 TO 1977

[See headnote, table 956]

INDUSTRY OF ACQUIRING CONCERN	1960-1964, total	1965-1969, total	1970-1974, total	1970	1971	1972	1973	1974	1975	1976	1977
Total concerns acquired	4,366	8,213	4,749	1,351	1,011	911	874	602	439	559	590
Mining	209	303	258	83	76	29	34	36	27	28	26
Manufacturing <sup>1</sup>	3,694	6,642	3,428	1,045	760	627	578	418	288	375	393
Food and kindred products	326	538	384	109	85	73	77	40	27	42	43
Tobacco manufactures	24	37	18	9	3	1	3	2	4	1	5
Textiles and apparel	280	439	160	47	37	31	30	15	3	13	11
Lumber and furniture	109	250	175	48	33	36	31	27	7	14	12
Paper and allied products	133	175	120	31	16	22	21	30	8	10	18
Printing and publishing	158	224	158	42	44	26	28	18	21	29	24
Chemicals	443	615	334	108	59	55	65	47	44	39	40
Petroleum	78	73	34	6	9	6	6	7	3	7	2
Rubber and plastics products	74	139	71	26	17	9	12	7	2	10	10
Leather products	32	75	41	15	11	10	5	-	3	3	1
Stone, clay, and glass products	103	212	136	43	31	18	19	25	15	13	11
Primary metals	173	366	180	57	51	25	24	23	22	22	23
Fabricated metal products	225	471	214	54	46	44	45	25	24	43	29
Machinery, except electrical	397	817	413	153	87	69	59	45	43	44	51
Electrical machinery	573	1,160	478	145	112	109	67	45	35	47	47
Transportation equipment	272	483	218	71	44	33	39	31	10	12	20
Professional scientific instruments	189	407	172	49	42	42	21	18	9	20	22
Nonmanufacturing <sup>2</sup>	463	1,268	1,063	223	175	255	262	148	124	156	171

- Represents zero. <sup>1</sup> Includes miscellaneous and ordnance, not shown separately. <sup>2</sup> Includes unknown industries.

# No. 958. MERGERS AND ACQUISITIONS—COMPANIES ACQUIRED, BY ASSET SIZE OF ACQUIRING AND ACQUIRED COMPANIES AND BY INDUSTRY: 1976 AND 1977

[Excludes pending mergers and acquisitions]

ASSET SIZE	ACQUIRING COMPANY		ACQUIRED COMPANY		INDUSTRY	ACQUIRING COMPANY		ACQUIRED COMPANY	
	1976	1977	1976	1977		1976	1977	1976	1977
Total	1,081	1,182	1,081	1,182	Total	1,081	1,182	1,081	1,182
Under \$1 mil. <sup>1</sup>	181	152	776	840	Manufacturing	826	572	420	439
\$1 mil. to \$9.9 mil.	58	75	146	146	Mining	33	47	41	44
\$10.0 mil. to \$49.9 mil.	213	218	115	121	Wholesale, retail trade	110	109	162	127
\$50.0 mil. to \$99.9 mil.	114	166	21	37	Service and other <sup>2</sup>	293	321	125	143
\$100.0 mil. and over	515	581	23	38	Unknown	119	133	333	429

<sup>1</sup> Includes companies of unknown asset size. <sup>2</sup> Companies in insurance, construction, farming, finance, credit, real estate, transportation, communication; electric, gas, sanitary services; and holding companies.

Source of tables 957 and 958: U.S. Federal Trade Commission, *Statistical Report on Mergers and Acquisitions*, annual.

# No. 959. INDUSTRIAL AND COMMERCIAL FAILURES—NUMBER AND LIABILITIES: 1946 TO 1978

[Excludes Hawaii prior to 1975, Alaska prior to 1976. Excludes all railroad failures. Excludes real estate and financial companies. See also *Historical Statistics, Colonial Times to 1970*, series V 20-30]

YEARLY AVERAGE OR YEAR	Total con- cerns in busi- ness <sup>1</sup> (1,000)	FAILURES <sup>2</sup>				YEAR	Total con- cerns in busi- ness <sup>1</sup> (1,000)	FAILURES <sup>2</sup>			
		Num- ber	Rate per 10,000 con- cerns	Current liabili- ties <sup>3</sup> (mil. dol.)	Aver- age liabili- ty (\$1,000)			Num- ber	Rate per 10,000 con- cerns	Current liabili- ties <sup>3</sup> (mil. dol.)	Aver- age liabili- ty (\$1,000)
1946-1950.....	2,493	5,652	21	213	45	1966.....	2,520	13,061	52	1,386	106
1951-1955.....	2,635	9,317	35	370	39	1967.....	2,519	12,364	49	1,265	102
1956-1960.....	2,674	14,177	53	708	50	1968.....	2,441	9,636	39	941	98
1961-1965.....	2,565	14,849	57	1,261	86	1969.....	2,484	9,154	37	1,142	125
1966-1970.....	2,481	10,903	44	1,324	121	1970.....	2,442	10,748	44	1,888	176
1971-1975.....	2,559	10,117	40	2,730	270	1971.....	2,466	10,326	42	1,917	166
1976-1978.....	2,787	8,055	29	2,821	350	1972.....	2,490	9,566	38	2,000	209
1980.....	2,708	15,445	57	939	61	1973.....	2,567	9,345	36	2,299	246
1961.....	2,641	17,075	64	1,090	64	1974.....	2,591	9,915	38	3,053	308
1962.....	2,589	15,782	61	1,214	77	1975.....	2,679	11,432	43	4,380	383
1963.....	2,544	14,374	56	1,353	94	1976.....	2,782	9,628	35	3,011	313
1964.....	2,524	13,501	53	1,329	98	1977.....	2,793	7,919	28	3,095	391
1965.....	2,527	13,514	53	1,322	98	1978.....	2,786	6,619	24	2,356	356

<sup>1</sup> Data represent number of names listed in July issue of *Dun & Bradstreet Reference Book*.

<sup>2</sup> Includes concerns discontinuing following assignment, voluntary or involuntary petition in bankruptcy, attachment, execution, foreclosure, etc.; voluntary withdrawals from business with known loss to creditors; also enterprises involved in court action, such as receivership and reorganization or arrangement which may or may not lead to discontinuance; and businesses making voluntary compromise with creditors out of court.

<sup>3</sup> Liabilities exclude long-term publicly held obligations; offsetting assets are not taken into account.

# No. 960. INDUSTRIAL AND COMMERCIAL FAILURES—NUMBER AND LIABILITIES, BY STATES: 1977 AND 1978

STATE	NUMBER <sup>1</sup>		CURRENT LIABILITIES <sup>1</sup> (mil. dol.)		STATE	NUMBER <sup>1</sup>		CURRENT LIABILITIES <sup>1</sup> (mil. dol.)	
	1977	1978	1977	1978		1977	1978	1977	1978
U.S.....	7,919	6,619	3,095.3	2,356.0	S.A.—Con.				
N.E.....	482	382	301.1	103.6	Va.....	139	99	25.6	29.2
Maine.....	39	19	4.5	3.0	W. Va.....	34	20	3.0	2.6
N.H.....	40	30	7.0	11.6	N.C.....	21	51	37.9	7.5
Vt.....	12	6	1.6	.7	S.C.....	26	9	6.9	26.0
Mass.....	309	241	265.5	79.6	Ga.....	107	77	20.7	40.2
R.I.....	17	29	3.3	3.4	Fla.....	171	149	85.3	28.8
Conn.....	65	57	19.2	5.2	E.S.C.....	374	372	105.3	81.3
M.A.....	1,800	1,341	1,293.6	800.3	Ky.....	76	94	13.8	29.7
N.Y.....	816	578	897.5	391.8	Tenn.....	150	155	65.9	28.4
N.J.....	535	415	195.0	198.8	Ala.....	127	96	21.4	17.9
Pa.....	449	348	201.1	209.7	Miss.....	21	27	4.2	5.4
E.N.C.....	1,395	1,166	273.9	273.1	W.S.C.....	643	805	246.3	333.3
Ohio.....	203	275	28.7	37.3	Ark.....	59	66	5.9	17.1
Ind.....	178	141	39.4	26.9	La.....	32	108	6.3	53.3
Ill.....	444	384	110.5	115.9	Okl.....	154	164	34.6	53.2
Mich.....	485	270	83.9	72.4	Tex.....	398	467	199.4	209.8
Wis.....	85	96	11.4	20.7	Mt.....	262	179	136.0	22.4
W.N.C.....	572	480	116.7	171.6	Mont.....	31	37	5.8	3.3
Minn.....	206	181	22.5	32.4	Idaho.....	23	25	89.8	2.6
Iowa.....	66	75	19.7	33.5	Wyo.....	2	3	.1	.5
Mo.....	107	65	42.0	8.7	Colo.....	89	37	17.5	4.2
N. Dak.....	36	25	3.8	3.1	N. Mex.....	13	-	3.1	-
S. Dak.....	42	23	4.8	8.8	Ariz.....	77	58	14.4	9.8
Nebr.....	46	45	12.4	74.7	Utah.....	5	4	3.0	.6
Kans.....	69	66	11.6	10.4	Nev.....	22	15	2.2	1.4
S.A.....	776	499	227.4	197.0	Pac.....	1,615	1,395	395.1	373.4
Del.....	9	2	2.0	.2	Wash.....	276	204	56.1	43.1
Md.....	265	88	45.6	8.8	Oreg.....	192	129	21.1	22.1
D.C.....	4	4	.4	53.8	Calif.....	1,133	1,029	313.7	298.8
					Hawaii.....	9	31	1.8	9.0
					Alaska.....	5	2	2.4	.3

- Represents zero. <sup>1</sup> See headnote and footnotes 2 and 3, table 959.

Source of tables 959 and 960: Dun & Bradstreet, Inc., New York, N.Y., *The Failure Record Through 1977 and Monthly Failure Report*.

# No. 961. INDUSTRIAL AND COMMERCIAL FAILURES—NUMBER AND LIABILITIES, BY INDUSTRY AND SIZE OF LIABILITY: 1970 TO 1978

[Excludes Hawaii prior to 1975, Alaska prior to 1976. See footnotes 2 and 3, table 959]

INDUSTRY AND SIZE OF LIABILITY	FAILURES						CURRENT LIABILITIES (mil. dol.)					
	1970	1974	1975	1976	1977	1978	1970	1974	1975	1976	1977	1978
<b>Total.....</b>	<b>10,748</b>	<b>9,915</b>	<b>11,432</b>	<b>9,628</b>	<b>7,919</b>	<b>6,619</b>	<b>1,888</b>	<b>3,053</b>	<b>4,380</b>	<b>3,012</b>	<b>3,095</b>	<b>2,366</b>
Mining and manufacturing.....	2,035	1,557	1,645	1,360	1,122	1,013	818	834	1,021	1,122	1,221	879
Under \$100,000.....	1,069	750	789	614	479	381	43	32	35	27	23	18
\$100,000 and over.....	966	807	856	746	643	632	775	802	986	1,094	1,198	861
Wholesale trade.....	984	964	1,089	1,028	887	740	179	275	407	414	613	346
Under \$100,000.....	650	572	611	506	450	313	27	24	28	23	21	15
\$100,000 and over.....	334	392	478	522	437	427	152	251	379	391	592	331
Retail trade.....	4,650	4,234	4,799	4,139	3,406	2,889	361	1,070	1,836	557	483	477
Under \$100,000.....	3,984	3,302	3,520	3,050	2,368	1,916	124	120	136	126	98	86
\$100,000 and over.....	666	932	1,279	1,089	1,038	973	236	950	1,700	430	384	391
Construction.....	1,687	1,840	2,262	1,770	1,463	1,204	232	527	641	429	420	328
Under \$100,000.....	1,229	1,152	1,433	1,097	867	650	42	46	58	47	38	28
\$100,000 and over.....	458	688	829	673	596	554	190	480	583	382	382	300
Commercial service.....	1,392	1,320	1,637	1,331	1,041	773	299	348	475	490	359	326
Under \$100,000.....	1,087	957	1,151	909	697	452	33	34	42	34	28	18
\$100,000 and over.....	305	363	486	422	344	321	265	314	433	456	331	308

Source: Dun & Bradstreet, Inc., New York, N.Y., *The Failure Record Through 1977 and Monthly Failure Report*.

## No. 962. BANKRUPTCY CASES FILED AND PENDING: 1905 TO 1978

[In thousands. For years ending June 30 except, beginning 1977, ending Sept. 30. Covers all U.S. district courts. A bankruptcy case is a proceeding filed in a U.S. district court under the National Bankruptcy Act. "Filed" means the commencement of a proceeding through the presentation of a petition to the clerk of the court; "Pending" is a proceeding in which the administration has not been completed]

YEAR	Filed	Pending	YEAR	Filed	Pending	YEAR	Filed	Pending	YEAR	Filed	Pending
1905.....	17	28	1945.....	13	21	1964.....	172	157	1971.....	201	201
1910.....	18	25	1950.....	33	38	1965.....	180	162	1972.....	183	197
1915.....	28	44	1955.....	59	56	1966.....	192	169	1973.....	173	189
1920.....	14	30									
1925.....	46	60	1960.....	110	95	1967.....	208	185	1974.....	190	201
1930.....	63	61	1961.....	147	124	1968.....	198	184	1975.....	254	262
1935.....	69	65	1962.....	148	134	1969.....	185	179	1976.....	247	271
1940.....	52	55	1963.....	155	148	1970.....	194	191	1977.....	213	255
									1978.....	203	246

Source: Administrative Office of the United States Courts, *Tables of Bankruptcy Statistics*, annual, and *Federal Judicial Workload Statistics*, annual.

## No. 963. BANKRUPTCY CASES FILED, BY TYPE OF BANKRUPTCY AND OCCUPATION OF DEBTOR: 1965 TO 1978

[For years ending June 30 except, beginning 1977, ending Sept. 30. See headnote, table 962]

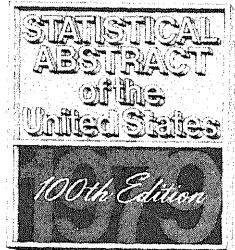
ITEM	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>Total.....</b>	<b>180,323</b>	<b>194,399</b>	<b>182,869</b>	<b>173,197</b>	<b>189,513</b>	<b>254,484</b>	<b>246,549</b>	<b>212,671</b>	<b>202,539</b>
Straight bankruptcies.....	151,137	162,451	153,934	145,914	157,967	209,330	209,067	179,181	167,254
Voluntary.....	149,820	161,366	152,840	144,929	156,958	208,064	207,926	178,054	166,276
Involuntary.....	1,817	1,085	1,094	985	1,009	1,266	1,141	1,127	978
Corporate reorganization.....	88	115	105	101	163	189	141	93	69
Arrangements.....	1,071	1,320	1,453	1,550	2,343	3,786	3,760	3,996	3,475
Wage earners' plans.....	28,027	30,510	27,373	25,632	29,023	41,178	33,579	29,399	31,737
Other.....	-	3	4	-	17	1	2	2	4
OCCUPATION OF DEBTOR <sup>1</sup>									
Employees.....	148,965	156,343	139,437	131,122	141,877	184,078	166,394	143,596	141,892
Merchants.....	4,832	4,003	4,359	4,492	5,317	6,048	6,124	6,529	5,025
Manufacturers.....	688	731	688	649	710	756	681	812	787
Farmers.....	589	653	631	431	308	550	672	768	703
Members of professions.....	778	1,301	1,556	1,450	1,582	2,542	2,809	2,728	2,135
Other.....	23,628	30,264	35,081	34,056	38,699	59,224	68,703	57,102	51,007
In business.....	9,188	8,470	9,825	9,505	11,870	19,073	23,870	20,596	19,740
Not in business.....	14,440	21,794	25,256	24,551	26,829	40,151	44,833	36,506	31,267

- Represents zero.

<sup>1</sup> Excludes involuntary corporate and involuntary straight cases.

Source: Administrative Office of the United States Courts, *Tables of Bankruptcy Statistics*, annual, and *Federal Judicial Workload Statistics*, annual.

# Communications



This section presents statistics on the usage, finances, and operations of the Postal Service and of the various communications media: Telephone, telegraph, radio, television, newspapers and periodicals, and books. Expenditures data for advertising in the media are also included.

**Postal Service.**—The Postal Service provides mail processing and delivery services within the United States. The Postal Reorganization Act of 1970 created the Postal Service, effective July 1971, as an independent establishment of the Federal Executive Branch; it also placed restrictions on the private delivery of mail.

“Revenue and cost analysis” is the term used by the Postal Service to describe its system of attributing revenues and costs to classes of mail and service. This system draws primarily upon probability sampling techniques to develop estimates of revenues, volumes, and weights, as well as costs by class of mail and special service. The costs attributed to classes of mail and special services are primarily incremental costs which vary in response to changes in volume; they account for roughly 65 percent of the total costs of the Postal Service. The balance represents “institutional costs” which includes funds for research and development, portions of personnel and of office supplies, etc. Statistics on revenues, volume of mail, and distribution of expenditures are presented in the Postal Service’s annual report *Revenue and Cost Analysis* and its *Annual Report of the Postmaster General*.

**Communication media.**—The Federal Communications Commission (FCC), established in 1934, regulates wire and radio communications and licenses radio and television stations. Only the largest carriers and controlling companies file annual or monthly financial reports. Regulatory jurisdiction of the FCC applies to domestic and overseas telegraph carriers and to the Communications Satellite Corporation, but not to a large number of telephone carriers which are engaged in intrastate or foreign service. The gross operating revenues of the telephone carriers reporting annually to the FCC, however, are estimated to cover over 90 percent of the revenues of all U.S. telephone companies.

Financial and other reports filed by the broadcasting industry cover substantially all radio and television stations operating in the United States and its outlying areas. Statistics covering the safety and special radio services represent the largest and most diverse group of licensees regulated by the FCC. These services primarily provide two-way radio communication for emergency and business purposes in the aviation, marine, land transportation, and other industries; police, fire, and other public safety programs; and amateur and personal operations. Principal sources of wire, radio, and television data are the U.S. Federal Communications Commission’s *Annual Report*, its annual *Statistics of Communications Common Carriers*, and its annual releases of financial data reported by radio and television stations and networks.

Statistics on the printed media are available from the U.S. Bureau of the Census, as well as from various private agencies. The censuses of manufactures (conducted by the Census Bureau every five years, for the years ending in “2” and “7”) provide statistics on the number and circulation of newspapers and periodicals and on sales of books and pamphlets. Editor and Publisher Co., Inc., New York, presents annual data on the number and circulation of daily and Sunday newspapers in its *International Yearbook*. Monthly data on new books and new editions appear in *Publishers Weekly*, issued by R. R. Bowker Company, New York.

**Advertising.**—The statistics on advertising expenditures are compiled primarily by

private organizations. McCann-Erickson, Inc., which compiles certain of the data shown, defines national advertising as the advertising done for companies whose products are distributed nationally, and for which national media rates are paid. Local advertising is defined as the advertising done for companies which market their products locally and which may pay special "local" media rates. Monthly figures for advertising are published regularly by McCann Erickson in its *Advertising Age*.

**Statistical reliability.**—For a discussion of statistical collection and estimation, sampling procedures, and measures of statistical reliability applicable to Census Bureau data, see Appendix III.

**Historical statistics.**—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1970*. See Appendix I.

### No. 964. U.S. POSTAL SERVICE—SUMMARY: 1900 TO 1978

[For years ending June 30 except, beginning 1977, ending Sept. 30. Includes Puerto Rico and all outlying are as except Canal Zone. See text, p. 577. See also *Historical Statistics, Colonial Times to 1970*, series R 163-171]

YEAR	Number of post offices	FINANCES <sup>1</sup>			Revenue per capita <sup>2</sup>	Sales of stamps and stamped paper	Postage paid under permit and meter	Money orders issued, total	PIECES OF MAIL HANDLED, est.		
		Revenues	Expenditures <sup>2</sup>	Deficit					Total <sup>4</sup>	First class <sup>5</sup>	Second class <sup>6</sup>
		<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Bil.</i>	<i>Bil.</i>	<i>Bil.</i>
1900-----	76,688	102	108	5	1.34	94	256	7.1	(NA)	(NA)	(NA)
1910-----	59,580	224	230	6	2.43	202	4	638	14.9	(NA)	(NA)
1920-----	52,641	437	454	17	4.11	380	13	1,356	(NA)	(NA)	(NA)
1930-----	49,063	705	804	98	5.75	575	74	1,767	27.9	16.9	5.0
1940-----	44,024	767	808	41	5.84	522	177	2,108	27.7	15.2	4.6
1950-----	41,464	1,677	2,223	545	11.14	862	678	<sup>8</sup> 5,138	45.1	24.5	6.3
1955-----	38,316	2,349	2,712	363	14.33	999	1,136	5,883	55.2	28.7	6.7
1960-----	35,238	3,277	3,874	597	18.27	1,245	1,699	5,058	63.7	33.2	7.5
1965-----	33,624	4,483	5,276	793	23.17	1,528	2,529	4,540	71.9	38.1	8.6
1970-----	32,002	7,702	7,867	165	31.05	1,936	3,853	4,709	84.9	48.6	9.4
1971-----	31,947	8,751	8,955	204	32.24	1,999	4,126	4,728	87.0	50.0	9.6
1972-----	31,686	9,347	9,522	175	37.89	2,371	4,861	4,731	87.2	48.9	9.5
1973-----	31,385	9,913	9,926	13	39.77	2,399	5,141	4,700	89.7	51.0	9.0
1974-----	31,000	10,857	11,295	438	42.85	2,504	5,623	5,194	90.1	51.6	8.8
1975-----	30,764	11,590	12,578	988	47.08	2,819	6,241	5,856	89.3	51.4	9.1
1976-----	30,521	12,747	13,923	1,176	52.21	3,155	6,883	6,243	89.8	52.1	8.9
1976, T Q <sup>9</sup>	30,521	3,402	3,387	<sup>10</sup> 15	14.11	815	1,895	1,639	21.5	12.5	2.1
1977-----	30,521	14,622	15,310	688	60.18	3,658	7,951	5,636	92.2	53.7	8.7
1978-----	30,518	15,841	16,220	379	64.91	3,943	8,668	5,587	96.9	56.0	8.7

NA Not available. <sup>1</sup> After allowance for reimbursements, embossed envelope purchases, indemnity claims, and miscellaneous revenue and expenditure offsets. Through 1950, includes some payments and receipts applicable to services in prior years; beginning 1955, expenditures are shown in year in which obligation was incurred, and revenues in year which gave rise to the earnings, whether collected or accrued. In 1954, the Postal Service began receiving reimbursement for penalty and franked mail, and discontinued payment of subsidies to airlines. Revenues for 1960 include \$37.4 million reimbursement from the Treasury General Fund for statutory public services. These and other changes affect comparability of figures. See also footnote 3, table 965.

<sup>2</sup> Includes capital expenditures for plant and equipment and cost of materials and supplies, but no provision for depreciation. Also includes costs of certain services rendered to other agencies without reimbursement but excludes costs of certain services rendered to the Postal Service by other agencies. Beginning 1955, represents obligations incurred; beginning 1965, represents accrued expenses, including depreciation on fixed assets, reimbursable for others, and expenses paid by certain other agencies without reimbursement by the Postal Service.

<sup>3</sup> Operating revenue only; based on Bureau of the Census estimated total population as of Jan. 1, including Armed Forces abroad. <sup>4</sup> Includes other classes of mail not shown separately see table 967. <sup>5</sup> Items mailed cards or bills and statements of account, items closed against postal inspection, etc. <sup>6</sup> Includes mail paid at other than bulk rates. <sup>7</sup> Service not inaugurated. <sup>8</sup> Includes postal notes issued under act of Congress.

<sup>9</sup> Transition quarter, July-Sept. <sup>10</sup> Net income.

Source: U.S. Postal Service, *Annual Report of the Postmaster General*.



## No. 965. U.S. POSTAL SERVICE REVENUES, BY SOURCE: 1960 TO 1978

[In millions of dollars, except percent. For years ending June 30 except, beginning 1977, ending Sept. 30. Includes Puerto Rico and all outlying areas except Canal Zone. See text, p. 577. Minus sign (-) denotes loss]

REVENUE SOURCE	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
<b>Total</b> <sup>1</sup>	<b>2,377</b>	<b>2,483</b>	<b>7,702</b>	<b>8,751</b>	<b>9,347</b>	<b>9,913</b>	<b>10,857</b>	<b>11,590</b>	<b>12,747</b>	<b>14,622</b>	<b>15,841</b>
Operating postal revenue <sup>2</sup>	3,270	4,433	6,347	6,665	7,884	8,339	9,008	10,015	11,199	12,908	14,133
Stamps, postal cards, etc.	1,245	1,528	1,936	1,999	2,371	2,399	2,504	2,819	3,155	3,658	3,943
Second-class postage paid in money (pound rates) <sup>4</sup>	86	131	192	191	214	224	259	284	319	427	551
Other postage paid under permit and meter	1,699	2,529	3,883	4,126	4,861	5,141	5,623	6,241	6,883	7,951	8,668
Box rents	29	34	44	49	58	61	63	67	103	109	124
Miscellaneous	<sup>5</sup> 147	154	236	245	325	460	507	556	675	748	758
Money-order revenues	64	57	56	55	55	54	52	53	63	105	89
Government appropriations	-	-	1,355	2,086	1,361	1,486	1,750	1,433	1,645	1,712	1,722
Percent of total revenue	-	-	17.6	23.8	14.6	15.0	16.1	13.2	12.9	11.7	10.9
Investment income, net	-	-	-	-	102	89	98	37	<sup>6</sup> -97	<sup>6</sup> -88	<sup>6</sup> -14

- Represents zero. <sup>1</sup> Net revenue after refunds of postage. Beginning 1965, includes operating reimbursement. <sup>2</sup> Includes small amounts for Postal Savings System, 1960 and 1965, and reimbursement by U.S. Congress in 1965. <sup>3</sup> The U.S. Postal Service was established July 1, 1971. Revenues prior to that date are those of the Post Office Department. Revenues for 1970 and 1971 have been restated to be consistent with subsequent years. See also footnote 1, table 964. <sup>4</sup> Includes controlled circulation publications. <sup>5</sup> Includes \$37.4 million appropriated to postal revenues for public services as provided by the Postal Policy Act of 1958. <sup>6</sup> Interest expense on loans exceeded interest income received from investments.

Source: U.S. Postal Service, *Annual Report of the Postmaster General*.

## No. 966. POSTAL REVENUES AND COSTS: 1970 TO 1978

[In millions of dollars, except as indicated. For years ending June 30 except, beginning 1977, ending Sept. 30. For 1970-1973, revenues exclude reimbursements from various sources which are included in revenue data shown in tables 964 and 965. See also *Historical Statistics, Colonial Times to 1970*, series R 172-182]

MAIL AND SERVICE	REVENUES		Per capita revenues <sup>1</sup> (dol.)	ATTRIBUTABLE COSTS <sup>2</sup>			
	Total	Percent of total		Total <sup>3</sup>	Direct labor	Transportation	Overhead
1970	6,477	(X)	31.69	4,143	3,072	572	399
1971	6,796	(X)	32.88	4,492	3,327	588	457
1972	9,858	(X)	44.97	4,761	3,579	533	526
1973	9,840	(X)	46.93	4,903	3,901	465	412
1974	10,857	(X)	51.65	5,420	4,297	495	491
1975	11,590	(X)	55.14	7,012	4,715	732	1,565
1976	12,747	(X)	59.43	10,322	8,651	547	1,124
1977	14,622	(X)	67.70	11,806	9,905	749	1,152
1978, total	15,841	100.00	72.77	<sup>4</sup> 11,806	<sup>4</sup> 9,905	<sup>4</sup> 749	<sup>4</sup> 1,152
First-class mail <sup>7</sup>	8,675	54.13	39.39	6,501	5,507	203	851
Priority mail <sup>8</sup>	497	3.14	2.28	235	135	91	9
Second-class publishers' mail <sup>9</sup>	472	2.98	2.17	759	633	39	87
Controlled circulation publication <sup>10</sup>	67	.42	.31	52	45	7	-
Third-class mail <sup>11</sup>	1,986	12.54	9.12	1,913	1,846	58	9
Bulk rate	1,745	11.02	8.01	1,643	1,589	54	-
Single piece rate and fees	241	1.52	1.11	270	257	4	9
Fourth-class mail <sup>12</sup>	673	4.25	3.09	1,029	754	148	127
Zone rate mail (parcels, catalogs, etc.)	460	2.90	2.11	651	474	108	69
Special fourth-class rate	187	1.18	.86	319	237	34	48
Library rate and fees	26	.17	.12	59	43	6	10
Government mail <sup>13</sup>	626	3.95	2.88	278	189	39	50
International mail <sup>14</sup>	499	3.15	2.29	373	194	104	15
Special services	439	2.77	2.02	582	581	-	1
Other <sup>15</sup>	2,007	12.67	9.22	24	21	-	3

- Represents zero. X Not applicable. <sup>1</sup> Based on Bureau of the Census estimated population as of Jan. 1, including Armed Forces abroad. <sup>2</sup> Costs which can be demonstrated to vary with changes in volume of a particular class or category of service or, even though fixed, to result from providing one specific class or category of service. <sup>3</sup> For 1970-1974, includes other direct and specific fixed costs.

<sup>4</sup> 1977 data. <sup>5</sup> Short- and longer-run direct and indirect costs. Does not include service-related costs. <sup>6</sup> Service-related costs. <sup>7</sup> See footnote 5, table 964. <sup>8</sup> Items otherwise qualified as 1st-class or airmail that exceed 12 ounces and 8 ounces, respectively. <sup>9</sup> Includes mail paid at other than bulk rates. Publishers' mail includes printed publications periodically issued and mailed at a known post office to paid subscribers. These include regular rate newspapers and magazines, and classroom and nonprofit rate publications. Outside-the-county publications are those mailed to destinations outside the county of publication.

<sup>10</sup> Publications of at least 24 pages and containing at least 25 percent nonadvertising content issued quarterly or more frequently for mainly free distribution. Includes certain trade publications and "shopper" guides.

<sup>11</sup> Items less than 16 ounces in weight not mailed at either 1st- or 2d-class rates. <sup>12</sup> Items not mailed at 1st-, 2d-, or 3d-class rates, except government and international mail. May include parcel post, catalogs weighing 16 ounces or more, books, films, and records. <sup>13</sup> Penalty and franked mail. <sup>14</sup> Mail from U.S. to foreign countries paid at international mail rates. <sup>15</sup> For revenues, consists of unassignable revenues; for attributable costs, consists of free mail for blind and handicapped and nonpostal services for other agencies.

Source: U.S. Postal Service, *Revenue and Cost Analysis*, annual.

### No. 967. U.S. POSTAL SERVICE—VOLUME OF MAIL, BY CLASSES: 1970 TO 1978

[For years ending June 30 except, beginning 1977, ending Sept. 30. Includes Puerto Rico and all outlying areas except Canal Zone. For definition of classes of mail, see footnotes, table 966. See also *Historical Statistics, Colonial Times to 1970*, series R 172-186]

CLASS OF MAIL	PIECES OF MAIL					WEIGHT OF MAIL (lb.)				
	1970	1975	1976	1977	1978	1970	1975	1976	1977	1978
Total.....mil..	84,882	89,266	89,768	92,224	96,913	13,281	12,025	11,750	12,344	12,013
Domestic.....mil..	83,986	88,334	88,835	91,339	96,000	13,055	11,824	11,538	12,128	11,804
1st class and airmail.....mil..	50,174	52,482	52,459	53,668	55,020	1,636	1,746	1,804	1,842	1,962
Priority mail.....mil..	185	207	192	202	213	371	440	435	499	510
2d class.....mil..	9,352	9,085	8,899	8,673	8,691	3,417	2,792	2,749	2,911	2,984
3d class.....mil..	19,974	21,867	22,514	24,050	26,330	2,032	2,283	2,334	2,474	2,725
4th class.....mil..	977	801	759	762	691	4,786	3,764	3,323	3,516	2,778
Controlled circulation publications.....mil..	562	628	612	690	761	224	232	228	267	300
Penalty.....mil..	2,544	2,928	2,959	2,962	2,824	540	527	617	565	498
Franked and free for blind.....mil..	218	336	440	332	470	49	50	49	54	47
Per capita: <sup>2</sup>										
Total, all mail.....	415	419	418	427	445	65	57	55	57	55
1st class and airmail.....	246	247	245	248	257	8	8	8	9	9
2d class.....	46	43	41	40	40	17	13	13	13	14
3d class.....	98	103	105	111	121	10	11	11	11	13
4th class.....	5	4	4	4	3	23	18	15	16	13
International.....mil..	896	932	933	885	913	226	201	212	216	209

<sup>1</sup> Includes express mail established as a class of mail on October 9, 1977 and mailgrams.

<sup>2</sup> Based on estimated total population as of Jan. 1, including Armed Forces abroad.

Source: U.S. Postal Service, *Annual Report of the Postmaster General*.

### No. 968. U.S. POSTAL SERVICE RATES FOR LETTERS AND POST CARDS: 1949 TO 1979

[See also *Historical Statistics, Colonial Times to 1970*, series R 188-191]

DATE OF RATE CHANGE	SURFACE MAIL LETTERS			SURFACE MAIL postal and post cards	DATE OF RATE CHANGE	DOMESTIC AIRMAIL LETTERS			DOMESTIC AIRMAIL postal and post cards
	Each ounce	First ounce	Each added ounce			Each ounce	First ounce	Each added ounce	
1952 (Jan. 1).....	3¢	(X)	(X)	2¢	1949 (Jan. 1).....	6¢	(X)	(X)	4¢
1958 (Aug. 1).....	4¢	(X)	(X)	3¢	1958 (Aug. 1).....	7¢	(X)	(X)	5¢
1963 (Jan. 7).....	5¢	(X)	(X)	4¢	1963 (Jan. 7).....	8¢	(X)	(X)	6¢
1968 (Jan. 7).....	6¢	(X)	(X)	5¢					
1971 (May 18).....	8¢	(X)	(X)	6¢	1968 (Jan. 7).....	10¢	(X)	(X)	8¢
1974 (Mar. 2).....	10¢	(X)	(X)	8¢	1971 (May 18).....	11¢	(X)	(X)	9¢
1975 (Sept. 14).....	(X)	10¢	9¢	7¢	1974 (Mar. 2).....	13¢	(X)	(X)	11¢
1975 (Dec. 31) <sup>1</sup> .....	(X)	13¢	11¢	9¢	1975 (Dec. 31) <sup>2</sup> .....	(X)	17¢	15¢	14¢
1978 (May 29).....	(X)	15¢	13¢	10¢					
In effect, Aug. 1979.....	(X)	15¢	13¢	10¢					

X Not applicable.

<sup>1</sup> As of October 11, 1975, surface mail service upgraded to level of airmail.

<sup>2</sup> As of May 1, 1977, domestic airmail service discontinued.

Source: U.S. Postal Service, "United States Domestic Postage Rates: Recent History," and unpublished data.

### No. 969. U.S. POSTAL SERVICE EMPLOYEES, BY TYPE: 1950 TO 1978

[In thousands. As of June 30 except, beginning 1977, as of Sept. 30. Includes Puerto Rico, and all outlying areas except Canal Zone. See *Historical Statistics, Colonial Times to 1970*, series R 187, for total employees]

ITEM	1950	1955	1960	1965	1970	1973	1974	1975	1976	1977	1978
Total employees.....	501	512	563	596	741	701	710	702	679	655	656
Regular.....	364	387	409	447	549	549	565	559	543	528	526
Postmasters.....	145	142	35	33	30	29	30	30	29	29	28
Office supvs. and tech. personnel.....	169	175	27	30	37	34	37	37	39	36	37
Office clerks and mail handlers <sup>1</sup> .....			172	188	243	239	243	239	235	228	226
City carriers and vehicle drivers.....	90	91	110	133	165	172	171	167	161	157	157
Rural carriers.....	33	32	31	31	31	30	31	31	31	31	31
Other.....	27	26	34	32	42	45	51	55	48	47	47
Substitute (part-time).....	137	145	164	148	193	162	146	143	136	127	130
Pieces of mail per employee, average.....	90	108	113	121	115	128	127	127	132	141	148

<sup>1</sup> Includes assistant postmasters: 3,540 in 1950, and 3,917 in 1955.

<sup>2</sup> Includes mobile unit employees.

Source: U.S. Postal Service, *Annual Report of the Postmaster General*.

## NO. 970. BELL TELEPHONE COMPANIES—SUMMARY: 1960 TO 1978

[As of Dec. 31 or for calendar year, as applicable. Comprises American Telephone and Telegraph Company and its principal telephone subsidiaries, plus Southern New England and Cincinnati Bell Telephone Companies. See also *Historical Statistics, Colonial Times to 1970*, series R 17-30]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
Central offices, number <sup>1</sup> .....	11,212	13,425	15,135	16,483	16,872	17,232	17,512	17,763	18,114
Miles of—Wire.....mil.	308	423	602	752	800	832	871	910	962
Coaxial tube.....1,000..	97	169	287	326	331	333	338	337	331
Telephone grade carrier channel <sup>2</sup> .....mil.	76	167	414	569	608	645	672	717	755
Microwave radio relay <sup>3</sup> .....1,000..	298	728	1,181	1,343	1,356	1,389	1,370	1,407	1,393
Book value of plant (cost).....mil. dol.	24,722	36,229	56,171	75,479	82,683	89,194	95,798	103,576	112,989
Depreciation reserves <sup>4</sup> .....mil. dol.	5,402	7,794	12,610	15,791	16,582	17,578	18,673	19,894	21,217
Operating revenues <sup>5</sup> .....mil. dol.	8,111	11,320	17,369	24,072	26,761	29,591	33,518	37,260	41,953
Local exchange.....mil. dol.	4,665	6,114	8,685	11,712	13,131	14,368	15,977	17,482	19,224
Toll.....mil. dol.	3,058	4,706	8,042	11,524	12,729	14,224	16,399	18,468	21,207
Operating expenses <sup>6</sup> .....mil. dol.	5,586	7,857	12,867	17,805	19,814	22,155	24,802	27,674	30,969
Net income.....mil. dol.	1,279	1,887	2,303	3,125	3,306	3,292	3,999	4,749	5,605
Dividends declared <sup>7</sup> .....mil. dol.	770	1,144	1,508	1,861	2,131	2,158	2,562	2,943	3,346
Employees, number.....1,000..	595	627	793	818	812	789	778	785	823
Wages and salaries.....mil. dol.	3,283	4,169	6,641	9,282	10,209	11,121	12,163	13,428	15,126

<sup>1</sup> 1960 not fully comparable with later years. <sup>2</sup> Message circuits added to existing wire mileage, but not requiring additional wire. Also includes microwave radio. <sup>3</sup> Broadband, 1-way channel.

<sup>4</sup> Includes amortization reserves. <sup>5</sup> Includes miscellaneous and uncollectable, not shown separately.

<sup>6</sup> Includes operating taxes other than Federal income tax. <sup>7</sup> Excludes intercompany dividends.

Source: American Telephone and Telegraph Company, New York, N.Y., unpublished data compiled from reports of Bell System and Southern New England and Cincinnati Bell Companies.

## NO. 971. TELEPHONE AND TELEGRAPH SYSTEMS: 1950 TO 1977

[Covers principal carriers filing annual reports with Federal Communications Commission. See *Historical Statistics, Colonial Times to 1970*, series R 46-70 and R 75-88, for data on telegraph systems]

ITEM	1950	1955	1960	1965	1970	1973	1974	1975	1976	1977
<b>Domestic telephone: <sup>1</sup></b>										
Carriers.....number.....	71	53	52	54	56	63	63	62	62	63
Telephones <sup>2</sup> .....mil.	39	50	66	82	105	121	126	130	135	143
Miles of wire.....mil.	147	205	316	436	628	788	838	872	913	966
Book cost of plant.....bil. dol.	10.7	16.2	25.7	38.0	59.9	81.0	88.6	95.5	103.1	113.1
Depreciation reserves <sup>3</sup> .....bil. dol.	3.0	4.1	5.6	8.1	13.2	16.8	17.7	18.8	20.2	21.9
Ratio to book cost.....percent.	27.8	25.3	21.7	21.4	22.1	20.7	20.0	19.7	19.6	19.4
Capital stock.....bil. dol.	3.2	6.0	8.4	10.0	10.8	11.5	11.7	12.4	12.7	14.2
Operating revenues.....bil. dol.	3.4	5.6	8.4	11.8	18.2	25.5	28.3	31.3	35.6	40.1
Operating expenses <sup>4</sup> .....bil. dol.	2.5	3.7	5.0	7.1	11.7	16.2	18.0	20.2	22.7	25.7
Net operating income <sup>5</sup> .....bil. dol.	.5	.8	1.4	2.1	3.1	4.6	5.2	5.6	6.5	7.2
Net income.....bil. dol.	.4	.7	1.3	1.9	2.3	3.2	3.5	3.6	4.3	5.1
Employees.....1,000..	565	649	627	655	839	874	865	840	832	851
Compensation of employees.....bil. dol.	1.8	2.7	3.4	4.3	7.0	9.8	10.7	11.7	12.4	13.4
<b>Overseas telephone:</b>										
Number of overseas calls.....mil.	.7	1.2	3.3	7.5	23.4	44.7	53.7	62.2	75.8	96.3
Revenue from overseas calls.....mil. dol.	9	16	42	101	252	368	496	582	664	785
Ocean cable systems.....number	1	1	5	11	13	13	14	14	15	15
Communications satellites.....number	-	-	-	1	4	5	6	5	5	5
<b>Domestic telegraph:</b>										
Carriers.....number.....	1	1	1	1	1	1	1	1	1	1
Revenue messages transmitted.....mil.	179	154	124	94	70	37	42	42	43	45
Message revenues <sup>6</sup> .....mil. dol.	162	189	190	192	234	184	192	197	202	214
Total operating revenues.....mil. dol.	178	229	262	306	402	455	484	505	528	555
Operating revenue deductions.....mil. dol.	167	206	247	282	368	401	414	435	453	470
Operating income <sup>7</sup> .....mil. dol.	9	13	11	24	34	54	69	70	74	85
Teletypewriter messages.....mil.	15	23	33	47	46	57	52	54	53	53
<b>Overseas telegraph: <sup>8</sup></b>										
Carriers.....number.....	11	10	9	6	6	6	6	6	6	6
Revenue messages transmitted.....mil.	23	26	28	29	32	30	29	26	24	23
Message revenues <sup>6</sup> .....mil. dol.	42	50	71	78	124	172	213	217	238	276
Total operating revenues.....mil. dol.	50	68	87	107	194	263	269	316	344	397
Operating revenue deductions.....mil. dol.	45	58	77	87	156	206	224	245	265	294
Operating income <sup>6</sup> .....mil. dol.	4	3	6	14	26	44	49	48	55	69

- Represents zero. <sup>1</sup> Includes Puerto Rico and, beginning 1965, Virgin Islands. Excludes intercompany duplications. Gross operating revenues of carriers reporting since 1970 estimated at 90 percent of all carriers.

<sup>2</sup> Includes company, service, and private. <sup>3</sup> Includes amortization reserves. <sup>4</sup> Excludes taxes. <sup>5</sup> After tax deductions. <sup>6</sup> Includes telex service; for domestic telegraph, excludes TWX. <sup>7</sup> After Federal income taxes. <sup>8</sup> Beginning 1965, excludes South American and most Caribbean operations of All America Cables and Radio, Inc.

Source: U.S. Federal Communications Commission, *Statistics of Communications Common Carriers*, annual, and unpublished data.

## NO. 972. INDEPENDENT TELEPHONE COMPANIES—SUMMARY: 1950 TO 1977

[As of Dec. 31 or calendar year, as applicable. See also *Historical Statistics, Colonial Times to 1970*, series R 31-45]

ITEM	1950	1955	1960	1965	1970	1974	1975	1976	1977
<b>All companies: <sup>1</sup></b>									
Number.....	5,541	4,713	3,299	2,421	1,841	1,641	1,618	1,590	1,556
Telephones.....1,000.....	6,338	8,461	11,428	15,027	20,312	25,826	28,823	28,209	29,675
Total telephone plant.....mil. dol.....	1,096	2,043	4,019	6,826	12,390	19,600	21,200	23,000	25,130
Operating revenues.....mil. dol.....	317	590	1,020	1,670	2,953	4,920	5,500	6,300	7,115
<b>Reporting companies: <sup>2</sup></b>									
Number.....	379	406	550	669	684	698	731	764	757
Percent of all independent companies' telephones represented.....	77.2	79.8	85.0	89.6	92.9	94.3	95.3	95.8	96.0
Telephones.....1,000.....	4,922	6,750	9,718	13,648	19,182	24,355	25,548	27,029	28,495
Telephone plant in service.....mil. dol.....	878	1,656	3,396	6,056	11,175	17,676	19,520	21,323	23,243
Depreciation reserves.....mil. dol.....	203	326	600	1,168	2,203	3,599	4,120	4,745	5,393
Operating revenues.....mil. dol.....	270	503	1,040	1,530	2,791	4,714	5,294	6,072	6,864
Operating expenses <sup>3</sup> .....mil. dol.....	211	354	630	1,040	1,953	3,254	3,639	4,159	4,722
Net income.....mil. dol.....	29	67	117	225	356	641	711	837	900
Employees.....1,000.....	63	72	85	101	142	157	152	154	160
Wages and salaries.....mil. dol.....	147	224	359	537	1,001	1,608	1,737	1,949	2,218

<sup>1</sup> All telephone companies independent of Bell System. <sup>2</sup> Comprises only companies submitting operating information to source cited below. <sup>3</sup> Excludes Federal income tax.

Source: United States Independent Telephone Association, Washington, D.C., *Statistics of the Independent Telephone Industry*, annual. (Copyright.)

## NO. 973. TELEPHONES, CALLS, AND RATES: 1960 TO 1978

[See also *Historical Statistics, Colonial Times to 1970*, series R 1-16]

ITEM	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>Telephones, Dec. 31.....mil.....</b>	74	94	120	132	138	144	149	155	162	169
Total per 1,000 population.....	408	478	584	628	655	677	695	718	744	770
Bell companies <sup>1</sup> .....mil.....	63	79	100	109	114	118	122	127	132	137
Independent companies.....mil.....	11	15	20	23	24	26	27	28	29	31
Business.....mil.....	21	26	33	36	37	39	39	41	42	44
Residence.....mil.....	54	68	87	96	101	105	110	114	120	125
Households with telephone <sup>2</sup> percent.....	79	85	91	92	94	94	95	95	96	97
<b>Average daily conversations:</b>										
Bell companies <sup>1</sup> <sup>3</sup> .....mil.....	225	287	379	421	444	470	481	498	519	561
Local.....mil.....	215	273	356	394	414	438	448	462	479	515
Long distance.....mil.....	10	14	23	27	30	32	33	36	40	45
Independent companies <sup>3</sup> .....mil.....	60	80	107	125	132	143	146	146	160	176
Local.....mil.....	58	77	103	119	125	136	137	137	150	165
Long distance.....mil.....	2	3	4	6	7	7	9	9	10	11
<b>Toll rates in effect, Dec. 31, from New York City to: <sup>4</sup></b>										
Philadelphia.....dol.....	.50	.50	.50	.55	.60	.60	.90	.99	1.01	1.01
Chicago.....dol.....	1.45	1.40	1.05	1.05	1.15	1.15	1.20	1.18	1.18	1.18
Denver.....dol.....	1.80	1.70	1.25	1.25	1.35	1.35	1.30	1.24	1.24	1.24
San Francisco.....dol.....	2.25	2.00	1.35	1.35	1.45	1.45	1.36	1.30	1.30	1.30

<sup>1</sup> See headline, table 970. <sup>2</sup> See footnote 2, table 975. <sup>3</sup> Includes messages originating in independent company areas routed in part over Bell facilities. <sup>4</sup> Source: Federal Communications Commission, tariff releases. Rates for dialing station-to-station, daytime, 3-minute call.

Source: Except as noted, American Telephone and Telegraph Company, New York, N.Y., unpublished data.

## NO. 974. REA AND RURAL TELEPHONE BANK PROGRAM—SUMMARY: 1960 TO 1978

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>Loans and guarantees approved, Dec. 31: <sup>1</sup></b>									
Borrowers.....	727	845	862	892	905	921	939	950	966
REA amount.....mil. dol.....	737	1,200	1,816	2,217	2,357	2,576	2,851	3,043	3,354
Guaranteed amount.....mil. dol.....	-	-	-	-	33	237	394	394	392
Rural Telephone Bank amount.....mil. dol.....	-	-	-	319	474	618	768	979	1,121
Route miles of line, <sup>2</sup> Dec. 31.....1,000.....	378	515	575	627	645	701	750	770	795
<b>Subscribers, Dec. 31.....1,000.....</b>	1,467	2,066	2,506	2,935	3,100	3,561	3,907	4,119	4,370
Telephones in service.....1,000.....	1,280	2,046	2,989	3,714	4,084	4,355	4,796	5,388	5,925
Total operating revenues.....mil. dol.....	94	187	363	555	660	753	899	1,087	1,305
Total telephone plant.....mil. dol.....	635	1,168	2,085	2,964	3,422	3,850	4,374	5,074	5,770
Employees.....1,000.....	9.7	11.6	15.4	17.4	19.6	20.0	21.2	23.5	26.3

- Represents zero.

<sup>1</sup> Cumulative net loans (cancellations deducted). <sup>2</sup> Line in service. <sup>3</sup> Preliminary.

Source: U.S. Rural Electrification Administration, *Annual Statistical Report—Rural Telephone Borrowers*.

## NO. 975. TELEPHONES IN USE, BY STATES: 1965 TO 1977

[As of Dec. 31]

STATE	1965			1970			1977					
	Telephones		Percent of households with telephones <sup>2</sup>	Telephones		Percent of households with telephones <sup>2</sup>	Telephones			Percent of households with telephones <sup>2</sup>	Telephones, by type of service	
	Total (1,000)	Percent owned by Bell companies <sup>1</sup>		Total (1,000)	Percent owned by Bell companies <sup>1</sup>		Total (1,000)	Percent owned by Bell companies <sup>1</sup>	Per 100 population <sup>3</sup>		Residence (1,000)	Business (1,000)
U.S.....	93,659	84	85	120,155	83	92	162,072	82	75	96	119,753	42,319
Ala.....	1,197	86	70	1,563	84	80	2,309	84	62	87	1,763	546
Alaska.....	64	-	(NA)	85	-	(NA)	223	-	55	76	125	98
Ariz.....	645	98	70	956	97	82	1,630	96	70	95	1,183	446
Ark.....	620	74	63	859	73	77	1,332	71	62	88	1,007	324
Calif.....	10,596	80	89	13,306	79	94	18,104	78	82	98	12,965	5,138
Colo.....	1,023	98	86	1,374	98	93	2,038	98	77	97	1,441	597
Conn.....	1,622	100	94	2,061	99	100	2,521	99	81	102	1,879	642
Del.....	281	100	89	380	100	97	487	100	84	101	359	128
D.C.....	757	100	91	878	100	100	1,041	100	152	100	507	534
Fla.....	2,796	68	79	4,142	68	88	6,821	65	80	97	5,048	1,772
Ga.....	1,688	86	73	2,413	86	83	3,728	86	73	91	2,784	944
Hawaii.....	323	-	(NA)	424	-	(NA)	630	-	70	103	410	220
Idaho.....	277	79	79	358	80	87	615	80	71	95	454	181
Ill.....	5,823	84	89	7,110	83	94	9,443	83	84	98	7,038	2,405
Ind.....	2,263	65	88	2,905	66	90	3,880	65	73	94	2,999	881
Iowa.....	1,328	69	95	1,625	70	95	2,143	69	74	97	1,624	519
Kans.....	1,040	83	87	1,301	83	93	1,791	84	77	94	1,347	444
Ky.....	1,078	74	70	1,435	73	80	2,124	72	61	89	1,615	508
La.....	1,353	95	76	1,781	95	87	2,592	94	66	93	1,972	619
Maine.....	389	91	82	490	90	93	742	88	68	98	574	168
Md.....	1,805	100	90	2,482	100	93	3,241	100	78	99	2,434	807
Mass.....	2,871	100	95	3,523	100	98	4,298	100	74	97	3,137	1,162
Mich.....	4,065	90	93	5,135	89	95	6,769	88	74	100	5,158	1,612
Minn.....	1,730	81	94	2,248	82	97	2,967	79	74	100	2,196	772
Miss.....	620	96	56	891	95	71	1,404	95	58	83	1,087	317
Mo.....	2,178	83	85	2,753	83	91	3,534	80	73	95	2,645	889
Mont.....	297	84	80	357	84	89	545	83	71	95	400	145
Nebr.....	711	58	88	884	58	96	1,201	58	77	99	898	303
Nev.....	224	41	69	333	35	84	627	31	98	100	422	205
N.H.....	296	95	88	425	95	99	643	95	75	101	490	153
N.J.....	3,750	98	91	4,786	98	99	6,128	98	84	104	4,580	1,547
N. Mex.....	394	86	68	494	87	80	756	87	63	89	531	225
N.Y.....	10,492	93	91	12,416	92	97	13,187	91	74	95	9,474	3,713
N.C.....	1,625	54	69	2,385	52	82	3,711	54	67	91	2,803	908
N. Dak.....	263	69	86	321	70	94	478	72	73	97	353	125
Ohio.....	5,005	78	90	6,201	77	94	7,548	76	70	96	5,730	1,818
Okl.....	1,122	89	79	1,469	88	88	2,119	87	75	95	1,559	561
Oreg.....	920	79	87	1,190	78	89	1,759	74	73	94	1,277	482
Pa.....	6,033	84	90	7,476	83	95	9,261	81	79	98	7,055	2,206
R.I.....	432	100	90	531	100	96	682	100	73	97	514	167
S.C.....	796	75	68	1,168	74	80	1,875	73	65	89	1,408	466
S. Dak.....	278	81	82	335	81	91	473	79	68	94	355	118
Tenn.....	1,436	85	75	1,947	84	84	2,921	84	67	91	2,209	712
Texas.....	4,556	84	75	6,329	84	86	9,573	82	74	94	6,922	2,650
Utah.....	468	96	89	596	96	93	937	96	73	98	689	248
Vt.....	169	88	80	236	87	97	330	87	68	102	240	90
Va.....	1,788	80	77	2,476	80	86	3,499	79	68	92	2,598	902
Wash.....	1,494	79	89	1,996	77	91	2,786	75	76	97	2,037	750
W. Va.....	626	88	74	763	87	82	1,037	87	55	87	793	244
Wis.....	1,890	74	91	2,370	72	95	3,273	71	70	98	2,438	835
Wyo.....	162	94	79	196	94	89	319	94	77	93	226	93

- Represents zero. NA Not available.

<sup>1</sup> Includes 456,600 service telephones (noncompany telephones for which switching service is provided) in 1965, 463,200 in 1970, and 379,000 in 1977.<sup>2</sup> Households with service are sum of residence main, apartment house private branch exchange and residence service main telephones, and other residence private branch exchange systems. There tends to be a slight overstatement of the proportion of households with telephone service. <sup>3</sup> Includes business phones.Source: U.S. Federal Communications Commission, *Statistics of Communications Common Carriers*, annual.

## No. 976. COMMUNICATION RATES BETWEEN SELECTED CITIES: 1946 TO 1979

[See also *Historical Statistics, Colonial Times to 1970*, series R 71-74 and R 89-92]

EFFECTIVE DATE	BETWEEN NEW YORK CITY AND—				EFFECTIVE DATE	BETWEEN NEW YORK CITY AND—			
	Phila- del- phia	Chi- ago	Den- ver	San Fran- cisco		Lon- don	Cairo	Tokyo	Buenos Aires
TELEGRAPH RATES <sup>1</sup>					CABLE AND RADIO TELEGRAPH RATES <sup>2</sup>				
1960, Oct. 17.....	1.10	1.45	1.90	1.90	1950, July 1.....	.19	.30	.30	.27
1966, Jan. 1.....	1.27	1.70	2.23	2.23	1958, Aug. 1.....	.21	.34	.34	.31
1968, Nov. 1.....	2.25	2.25	2.25	2.25	1966, Apr. 12.....	.23	.34	.34	.31
1970, Mar. 1.....	2.75	2.75	2.75	2.75	1978, Jan. 1.....	.23	.34	.34	.31
1971, July 4.....	3.75	3.75	3.75	3.75	In effect Jan. 1, 1979..	.23	.34	.34	.31
1974, Dec. 2.....	4.75	4.75	4.75	4.75					
1978, Oct. 1-Jan. 1, 1979..	4.95	4.95	4.95	4.95					
TWX RATES <sup>2</sup>					TELEPHONE RATES <sup>4</sup>				
1960, Feb. 7.....	.45	1.15	1.65	1.75	1946.....	12.00	12.00	12.00	12.00
1966, Sept. 1.....	.25	.45	.55	.60	1970, Mar. 1.....	9.60	12.00	12.00	12.00
1970, Feb. 1.....	.25	.50	.65	.70	1978, Jan. 1.....	9.60	12.00	12.00	12.00
1978, Aug. 10-Jan. 1, 1979	.40	.48	.52	.52	In effect Jan. 1, 1979..	9.60	12.00	12.00	12.00

<sup>1</sup> Minimum charge for 15 text words or less.<sup>2</sup> Prior to September 1966, rates for 3 minutes or less, 2-way; thereafter, for each minute or fraction thereof.<sup>3</sup> Per plain language telegraph-word including address and signature. <sup>4</sup> For person-to-person, 3-minute call.

Source: U.S. Federal Communications Commission, tariff releases.

No. 977. BROADCAST AND NONBROADCAST STATIONS AUTHORIZED AND OPERATORS  
LICENSED, BY CLASS: 1975 TO 1978[1975 as of June 30; thereafter, as of Sept. 30. Includes Puerto Rico and Virgin Islands. See also *Historical Statistics, Colonial Times to 1970*, series R 140-145]

CLASS	1975	1977	1978	CLASS	1975	1977	1978
STATIONS AUTHORIZED (1,000)				STATIONS AUTHORIZED (Number)			
<b>Safety and special radio services <sup>1</sup></b>	<b>2,602.4</b>	<b>13,041.1</b>	<b>15,786.1</b>	<b>Broadcast services <sup>2</sup></b>	<b>32,172</b>	<b>36,518</b>	<b>36,287</b>
Amateur and disaster.....	276.8	340.9	369.5	Commercial AM.....	4,488	4,555	4,592
Citizens.....	1,530.8	11,652.8	14,249.0	Commercial TV.....	759	774	787
Aviation.....	184.4	207.8	216.0	Educational TV.....	266	265	269
Aircraft.....	154.7	176.9	184.3	TV translator.....	3,389	3,817	4,009
Aeronautical and fixed.....	7.4	7.7	8.2	Auxiliary TV.....	3,032	4,182	4,765
Civil air patrol.....	19.6	20.1	20.5	Experimental TV.....	3	2	2
Other.....	2.7	3.0	3.0	UHF signal booster.....	9	9	9
Industrial.....	244.6	357.9	426.2	Aural, studio-transmitter- link, intercity relay.....	1,008	1,447	1,678
Power.....	17.5	20.9	22.2	Commercial FM.....	2,847	3,101	3,243
Business.....	155.2	248.4	303.9	Educational FM.....	850	1,000	1,050
Petroleum.....	11.8	14.6	15.7	International.....	4	4	4
Forest products.....	4.3	5.0	5.4	Remote pickup.....	14,959	16,582	14,895
Special industrial.....	40.7	57.6	66.5	Instructional TV, fixed.....	187	180	189
Other.....	15.1	11.1	12.5	Other.....	381	600	786
Land transportation.....	22.6	25.4	28.0	<b>Common carrier services..</b>	<b>27,357</b>	<b>43,742</b>	<b>51,607</b>
Railroad.....	8.9	9.7	10.4	Point-to-point microwave.....	8,133	8,641	8,755
Taxicab.....	3.7	4.4	4.8	Multipoint distribution serv.. 69	89	158	143
Interurban property.....	2.2	2.8	3.2	Local TV transmission.....	64	66	65
Other.....	7.9	8.3	9.6	Rural radio.....	1,218	1,450	1,504
Marine.....	250.7	315.0	345.3	Developmental.....	(NA)	190	200
Ship.....	243.6	305.9	335.0	Public land mobile <sup>1</sup> .....	17,783	32,483	39,584
Alaskan.....	2.1	2.2	2.3	International control, fixed.....	25	8	8
Coastal and other.....	5.0	6.9	8.0	Satellite earth stations <sup>4</sup> .....	48	695	1,294
				Satellites in orbit <sup>5</sup> .....	17	27	30
				Other.....	(NA)	24	24
Public safety.....	92.6	127.2	138.7	<b>Experimental services.....</b>	<b>1,349</b>	<b>1,332</b>	<b>1,432</b>
Police.....	28.8	39.7	42.8	Cable relay service <sup>3</sup> .....	877	1,094	1,187
Fire.....	14.0	20.2	22.8				
Forestry conservation.....	6.2	7.2	7.4	RADIO OPERATORS			
Highway maintenance.....	7.7	9.5	10.0	<b>Total.....</b>	<b>4,222</b>	<b>4,618</b>	<b>4,779</b>
Special emergency.....	12.4	20.9	23.6	Commercial.....	3,965	4,294	4,426
Other.....	23.5	29.5	32.1	Amateur.....	257	324	353
Operational fixed services <sup>2</sup> ..	(NA)	13.6	14.4				

NA Not available.

<sup>1</sup> Each license, construction permit, or combination construction permit and license is counted as one station; therefore, a station might include a transmitter and many mobile units. <sup>2</sup> Includes microwave operations. Prior to 1977, data not separable from other class categories. <sup>3</sup> Stations licensed or holding construction permits.<sup>4</sup> Between 1975 and 1978, there was a large increase in receive-only earth stations.<sup>5</sup> Includes domestic satellite systems.Source: U.S. Federal Communications Commission, *Annual Report*.

**No. 978. COMMERCIAL BROADCAST STATIONS, NUMBER AND REVENUES: 1950 TO 1977**

[Covers reporting stations. As of Dec. 31. Includes P. Rico and Virgin Isl. Revenues are total time sales of all networks and stations, less commissions to agencies and plus incidental revenues (e.g., sale of talent and program material). See also *Historical Statistics, Colonial Times to 1970*, series R 111-112 and R 128-129]

STATION	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977
Stations.....	2,336	3,179	4,218	4,867	5,584	5,826	5,936	6,136	6,228	6,339	6,316
Revenues.....mil. dol.	550	1,198	1,866	2,757	3,945	4,586	4,967	5,384	5,819	7,218	8,163
AM and AM-FM stations.....	2,143	2,704	3,470	3,941	4,209	4,271	4,267	4,367	4,355	4,363	4,292
Revenues <sup>1</sup> .....mil. dol.	443	452	592	777	1,077	1,292	1,348	1,410	1,480	1,687	1,846
FM affiliates of AM stations: Revenues.....mil. dol.	(NA)	(NA)	(NA)	(NA)	225	275	361	397	477	562	586
FM independent stations: Revenues.....mil. dol.	86	38	218	338	464	590	616	678	703	713	741
TV stations.....	107	437	530	588	686	690	692	694	693	701	<sup>2</sup> 708
Revenues <sup>2</sup> .....mil. dol.	106	745	1,269	1,965	2,808	3,179	3,465	3,781	4,094	5,199	<sup>3</sup> 6,193

NA Not available. <sup>1</sup> Prior to 1960, includes 4 national networks and 3 regional networks; 1960-1965, includes 4 national networks; thereafter, includes 7 national networks (CBS, MBS, NBC, and ABC's 3 AM and 1 FM). <sup>2</sup> Includes 4 networks through Sept. 15, 1955; 3 thereafter. <sup>3</sup> 1978 data.

**No. 979. COMMERCIAL BROADCAST STATIONS—STATES AND OTHER AREAS: 1970 AND 1978**

[Represents stations in operation as of Jan. 1]

STATE	1970			1978			STATE	1970			1978		
	AM	FM	TV	AM	FM	TV		AM	FM	TV	AM	FM	TV
Total.....	<sup>1</sup> 4,256	<sup>2</sup> 2,044	683	<sup>1</sup> 4,459	<sup>2</sup> 2,922	720	Mo.....	104	41	21	111	77	23
U.S.....	4,209	2,021	672	4,399	2,885	709	Mont.....	41	7	10	45	21	12
Ala.....	134	51	15	138	69	17	Nebr.....	47	15	14	48	31	14
Alaska.....	18	3	7	20	6	7	Nev.....	20	8	7	22	14	7
Ariz.....	59	15	11	60	32	11	N.H.....	25	10	3	28	17	1
Ark.....	84	35	7	86	53	8	N.J.....	32	26	4	38	34	5
Calif.....	231	145	50	231	194	56	N.Mex.....	55	19	7	55	29	9
Colo.....	67	26	11	70	43	11	N.Y.....	157	91	27	160	117	29
Conn.....	38	20	5	38	23	5	N.C.....	195	71	19	209	85	18
Del.....	10	4	-	10	8	-	N. Dak.....	27	11	12	26	12	11
D.C.....	6	6	6	7	7	5	Ohio.....	116	108	29	122	130	24
Fla.....	191	88	24	200	111	31	Okla.....	64	35	9	67	50	10
Ga.....	169	57	15	178	86	18	Oreg.....	80	17	12	80	33	12
Hawaii.....	25	4	10	25	6	10	Pa.....	169	109	23	178	125	25
Idaho.....	42	7	7	42	16	8	R.I.....	15	7	2	15	7	2
Ill.....	121	92	24	125	129	22	S.C.....	101	37	11	108	55	11
Ind.....	83	72	17	86	95	19	S. Dak.....	29	6	10	33	18	11
Iowa.....	73	35	12	75	71	13	Tenn.....	139	61	16	155	74	18
Kans.....	57	24	12	59	40	12	Tex.....	285	122	55	286	185	54
Ky.....	102	60	10	119	86	11	Utah.....	31	10	3	34	19	3
La.....	90	41	15	95	61	15	Vt.....	18	4	2	19	12	2
Maine.....	36	13	7	37	28	7	Va.....	123	53	12	137	73	14
Mid.....	52	31	5	50	37	6	Wash.....	96	39	13	92	51	14
Mass.....	62	38	11	64	38	12	W. Va.....	58	23	9	62	32	9
Mich.....	124	79	20	127	109	24	Wis.....	97	74	17	101	91	17
Minn.....	83	39	12	81	66	12	Wyo.....	29	1	3	30	11	4
Miss.....	99	34	9	105	68	10	Other areas....	47	23	11	61	37	11
							P. Rico.....	43	21	8	53	32	8
							Guam, V. Is.....	4	2	3	7	5	3

- Represents zero. <sup>1</sup> AM-FM stations which filed combined reports with the FCC are counted both as AM and as FM stations. There were 1,416 such stations in 1970 and 1,512 in 1978.

Source of tables 978 and 979: U.S. Federal Communications Commission, *AM-FM Broadcast Financial Data*, annual; *TV Broadcast Financial Data*, annual; and unpublished data.

**No. 980. CABLE TELEVISION—SYSTEMS AND SUBSCRIBERS 1952 TO 1978**

YEAR (As of Jan. 1)	Systems	Subscribers (1,000)	YEAR (As of Jan. 1)	Systems	Subscribers (1,000)	SYSTEMS SIZE-GROUP <sup>1</sup>	Systems, 1978 <sup>2</sup>
1952.....	70	14	1971.....	2,639	5,300	50,000 and over....	12
1955.....	400	150	1972.....	2,841	6,000	20,000-49,999.....	89
1960.....	640	650	1973.....	2,991	7,300	10,000-19,999.....	227
1965.....	1,325	1,275	1974.....	3,158	8,700	5,000-9,999.....	390
1967.....	1,770	2,100	1975.....	3,506	9,800	3,500-4,999.....	261
1968.....	2,000	2,800	1976.....	3,681	10,800	1,000-3,499.....	1,210
1969.....	2,260	3,600	1977.....	3,832	11,900	500-999.....	725
1970.....	2,490	4,500	1978.....	3,997	13,000	250-499.....	557
						Less than 250.....	501

<sup>1</sup> Excludes 25 systems not available by subscriber size-group. <sup>2</sup> As of Sept. 1.

Source: Television Digest, Inc., Washington, D.C., *Television Factbook*, annual. (Copyright.)

### NO. 981. TELEVISION BROADCAST INDUSTRY FINANCES: 1960 TO 1978

[Includes Puerto Rico and Virgin Islands. See also headnote, table 978, and *Historical Statistics, Colonial Times to 1970*, series R 123-139]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
Number of networks, Dec. 31.....	3	3	3	3	3	3	3	3	3
Stations reporting, Dec. 31.....	530	588	686	692	694	693	701	697	708
VHF.....	454	488	506	511	514	513	511	512	511
UHF.....	76	100	180	181	180	180	190	185	197
FINANCES (mil. dol.)									
Broadcast revenues, gross.....	1,504	2,328	3,337	4,107	4,479	4,860	6,191	7,000	8,220
Sales to advertisers.....	1,456	2,266	3,243	4,002	4,354	4,722	6,030	6,840	8,058
Network sales.....	747	1,142	1,551	1,840	2,005	2,157	2,675	3,242	3,725
National non-network sales.....	469	796	1,103	1,230	1,336	1,449	1,923	1,968	2,304
Local sales.....	240	328	589	932	1,012	1,116	1,432	1,631	2,029
Nonadvertising revenues.....	48	62	94	105	125	138	161	159	162
Broadcast revenues, net.....	1,269	1,965	2,808	3,465	3,781	4,094	5,198	5,889	6,913
3 networks <sup>1</sup> .....	641	1,024	1,457	1,758	1,921	2,069	2,604	3,085	3,549
Other stations.....	628	941	1,351	1,707	1,860	2,025	2,594	2,804	3,364
Broadcast expenses of networks and stations.....	1,025	1,517	2,354	2,811	3,043	3,314	3,948	4,488	5,266
3 networks <sup>1</sup> .....	546	862	1,290	1,470	1,590	1,755	2,350	2,530	2,989
Other stations.....	479	655	1,065	1,341	1,453	1,559	1,798	1,958	2,276
Broadcast income <sup>2</sup> .....	244	448	454	653	738	780	1,250	1,401	1,647
3 networks <sup>1</sup> .....	95	162	167	288	331	314	455	555	550
Other stations.....	149	286	286	365	406	466	796	846	1,087

<sup>1</sup> Includes owned and operated stations.   <sup>2</sup> Before Federal income tax.

Source: U.S. Federal Communications Commission, *TV Broadcast Financial Data*, annual.

### NO. 982. RADIO BROADCAST INDUSTRY FINANCES: 1960 TO 1977

[Includes Puerto Rico and Virgin Islands. Minus sign (—) denotes loss. See also headnote, table 978, and *Historical Statistics, Colonial Times to 1970*, series R 106-122]

ITEM	1960	1965	1970	1972	1973	1974	1975	1976	1977
Number of networks, Dec. 31.....	4	4	7	7	7	7	7	7	7
Number of stations reporting, Dec. 31.....	3,688	4,279	4,898	5,136	5,244	5,436	5,535	5,638	5,619
AM and AM-FM.....	3,470	3,941	4,209	4,271	4,267	4,361	4,355	4,363	4,292
FM independents.....	218	338	464	590	616	678	703	713	741
FM affiliates of AM stations <sup>1</sup> .....	(NA)	(NA)	225	275	361	397	477	562	586
FINANCES (mil. dol.)									
Broadcast revenues, gross.....	665	880	1,272	1,564	1,664	1,774	1,911	2,247	2,535
Revenues from sales to advertisers.....	654	868	1,257	1,547	1,647	1,756	1,890	2,226	2,513
Network sales.....	45	54	49	65	59	60	73	92	118
National non-network sales.....	208	261	355	384	382	387	416	495	521
Local sales.....	401	553	853	1,098	1,205	1,309	1,401	1,639	1,873
Nonadvertising revenues.....	11	12	15	17	17	18	21	21	22
Broadcast revenues, net.....	598	793	1,137	1,407	1,502	1,603	1,725	2,019	2,275
AM and AM-FM.....	592	777	1,077	1,292	1,348	1,410	1,480	1,687	1,846
FM independents.....	6	16	41	77	96	128	143	180	225
FM affiliates of AM stations.....	(NA)	(NA)	19	38	58	65	102	152	203
Networks <sup>2</sup> .....	63	74	88	112	112	116	134	166	213
Other stations.....	535	719	1,049	1,295	1,398	1,487	1,591	1,853	2,062
Broadcast expenses of networks and stations.....	552	715	1,044	1,273	1,392	1,519	1,638	1,841	2,028
AM and AM-FM.....	544	696	973	1,145	1,227	1,315	1,384	1,529	1,642
FM independents.....	8	19	47	86	106	141	152	176	276
FM affiliates of AM stations.....	(NA)	(NA)	24	41	58	63	98	136	171
Networks <sup>2</sup> .....	66	71	90	103	109	116	128	157	166
Other stations.....	486	644	955	1,170	1,283	1,403	1,510	1,684	1,862
Broadcast income <sup>3</sup> .....	46	78	93	134	110	84	91	179	246
AM and AM-FM.....	48	81	104	147	121	95	95	168	204
FM independents.....	-2	-3	-6	-9	-11	-13	-9	4	32
FM affiliates of AM stations.....	(NA)	(NA)	-5	-4	-1	2	5	17	9
Networks <sup>2</sup> .....	-3	3	-1	9	3	-	6	9	47
Other stations.....	49	75	94	125	107	84	85	170	200

- Represents zero. NA Not available.   <sup>1</sup> For 1960 and 1965, reports combined with AM stations.

<sup>2</sup> Includes owned and operated stations.   <sup>3</sup> Before Federal income tax.

Source: U.S. Federal Communications Commission, *AM-FM Broadcast Financial Data*, annual.



# NO. 983. RADIO AND TELEVISION STATIONS OWNED BY NEWSPAPERS AND/OR MAGAZINES: 1961 TO 1978

DATE	AM radio	FM radio	TV	DATE	AM radio	FM radio	TV	DATE	AM radio	FM radio	TV
1961, Sept. 1.....	412	147	161	1969, Dec. 1.....	394	245	189	1974, Dec. 1.....	321	236	193
1965, Oct. 31.....	391	170	174	1971, Feb. 1.....	402	248	191	1975, Dec. 1.....	320	238	197
1966, Nov. 10.....	387	177	172	1971, Dec. 1.....	318	209	176	1976, Dec. 1.....	322	238	209
1967, Nov. 1.....	383	181	177	1972, Dec. 1.....	325	171	178	1977, Dec. 1.....	314	238	211
1968, Dec. 4.....	381	191	183	1973, Dec. 1.....	304	211	179	1978, Dec. 1.....	319	252	221

Source: Broadcasting Publications Inc., Washington, D.C., *Broadcasting Yearbook*. (Copyright.)

## NO. 984. BROADCAST STATIONS SOLD—NUMBER AND VALUE: 1965 TO 1978

[Includes a very small number of stations exchanged or donated to nonprofit organizations. Value figures represent total considerations reported for all transactions, except minority interest transfers in which control of the station did not change hands. All sales approved by the U.S. Federal Communications Commission]

ITEM	1965	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Number of stations sold: <sup>1</sup>											
Radio.....	389	343	268	270	239	352	369	363	413	344	586
Combined radio-TV.....	15	5	3	1	-	5	5	-	1	-	3
TV.....	32	32	19	27	37	25	24	22	32	25	51
Value of sale transactions.....mil. dol.	135.1	231.7	174.8	393.5	271.3	230.3	307.8	259.5	290.9	289.9	651.7
Radio.....mil. dol.	55.9	108.9	86.3	125.5	114.4	160.9	109.0	131.1	180.7	161.2	331.6
Combined radio-TV.....mil. dol.	49.8	35.0	1.0	.8	-	2.8	19.8	-	1.8	-	30.4
TV.....mil. dol.	29.4	87.8	87.5	267.3	156.9	66.6	119.0	128.4	108.5	128.7	289.7

- Represents zero. <sup>1</sup> Beginning 1978, AM-FM combination sales counted as two units, not one.

Source: Broadcasting Publications, Inc., Washington, D.C., *Broadcasting Magazine*, weekly. (Copyright.)

## NO. 985. PUBLIC TELEVISION STATIONS: 1961 TO 1978

[General programing is directed at the general community. Instructional programing is directed at students in the classroom or otherwise in the general context of formal education. 1978 preliminary]

ITEM	1961	1964	1966	1968	1970	1972	1974	1976	1978
Stations.....	56	88	115	<sup>1</sup> 153	<sup>1</sup> 190	220	<sup>2</sup> 238	<sup>3</sup> 253	272
Total weekly broadcast hours.....	2,186	3,715	5,688	8,534	12,217	15,587	18,321	22,096	25,599
General programs.....	1,431	1,992	3,248	4,671	7,697	7,904	10,868	14,329	17,507
Percent of total hours.....	65.5	54.0	57.5	54.7	63.0	50.7	59.3	64.8	68.4
Instructional programs.....	755	1,723	2,440	3,863	4,520	7,683	<sup>4</sup> 7,453	<sup>5</sup> 7,766	<sup>5</sup> 8,092
Avg. wkly. broadcast hours per station...	39.0	42.3	49.5	56.1	65.3	70.9	80.7	90.9	94.1
General programing.....	25.6	22.6	28.2	30.7	41.1	35.0	47.9	59.0	64.1
Instructional programing.....	13.8	19.6	21.2	25.4	24.2	34.9	<sup>6</sup> 32.8	<sup>6</sup> 31.9	29.8

<sup>1</sup> 152 stations reported in 1968 and 187 in 1970; details include data for reporting stations only. <sup>2</sup> Includes data for 227 stations only, representing 147 primary broadcasters; does not include secondary broadcasters. <sup>3</sup> Includes data for 243 stations only, representing 151 primary broadcasters. <sup>4</sup> Includes 3,766 hours of CTW (children's TV workshop) broadcasting, representing 20.6 percent of total weekly broadcasting hours. <sup>5</sup> Includes all material from CTW's. <sup>6</sup> Includes 16.6 hours of CTW broadcasting.

Source: Through 1970, National Instructional Television Center, Bloomington, Ind., *One Week of Educational Television*, 1970 (copyright); 1972, Corporation for Public Broadcasting, Washington, D.C., *One Week of Public TV*, April 1972; and unpublished data.

## NO. 986. HOUSEHOLDS WITH TELEVISION SETS: 1950 TO 1979

[Excludes Alaska and Hawaii. Through 1965, as of January of year shown; thereafter, as of September of prior year]

ITEM	1950	1955	1960	1965	1970	1975	1976	1977	1978	1979
Total households.....1,000..	43,000	47,620	52,500	56,900	61,410	70,520	71,460	73,100	74,700	76,240
Households with TV sets...1,000..	3,880	30,700	45,750	52,700	58,500	68,500	69,600	71,200	72,900	74,500
Percent of total.....	9.0	64.5	87.1	92.6	95.3	97.1	97.4	97.4	97.6	97.7
Average number of sets.....	1.01	1.03	1.13	1.22	1.39	1.54	1.66	1.59	1.63	1.67
Multiset households.....1,000..	40	875	5,500	10,225	18,840	28,360	30,000	31,880	33,690	36,040
Color set households.....1,000..	-	5	340	2,810	20,910	46,850	51,230	54,870	56,850	60,290
Average viewing per day 1...hours..	4.6	4.9	5.1	5.5	5.9	6.1	6.3	6.2	(NA)	6.3

- Represents zero. NA Not available. <sup>1</sup> Source: A. C. Nielsen Company, Northbrook, Ill. (copyright).

Source: Except as noted, 1950-1965, National Broadcasting Company, New York, N.Y.; thereafter, A. C. Nielsen Company, Northbrook, Ill. (copyright). In Television Bureau of Advertising, Inc., New York, "Trends in Television, 1950 To Date," April 1, 1979.

# NO. 987. RADIOS AND TELEVISION SETS—PRODUCTION AND IMPORTS, BY MODEL: 1956 TO 1978

[In thousands, except percent]

ITEM	1956	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>RADIOS<sup>1</sup></b>											
Total.....	14,008	24,463	41,726	44,427	55,311	50,198	43,992	34,515	44,101	52,926	48,035
Percent FM/AM-FM.....	(NA)	(NA)	15.2	48.0	49.2	47.9	59.4	65.0	59.6	65.9	66.7
Table model.....	3,360	4,511	4,370	5,714	4,926	3,023	2,764	2,253	2,876	1,990	1,805
Percent FM/AM-FM.....	7.0	16.8	32.0	72.8	77.0	89.6	81.7	80.6	86.4	84.5	81.3
Clock model.....	2,475	3,780	5,448	4,874	7,474	10,425	9,174	6,641	7,363	11,447	11,488
Percent FM/AM-FM.....	(NA)	4.1	16.0	59.8	72.8	72.7	79.1	89.1	85.8	89.4	92.3
Portable model.....	3,116	9,740	21,871	23,461	29,749	24,204	21,292	16,382	21,427	26,599	22,074
Percent FM/AM-FM.....	(NA)	1.4	15.7	65.9	50.1	42.9	61.9	65.4	61.4	59.0	59.0
Auto model.....	5,057	6,432	10,037	10,378	13,162	12,546	10,762	9,239	12,445	12,890	12,668
Percent FM/AM-FM.....	(NA)	(NA)	6.3	13.8	23.7	28.3	31.8	37.7	49.7	56.0	57.7
<b>TELEVISION SETS<sup>2</sup></b>											
Total.....	7,387	5,708	8,382	9,483	13,507	17,367	15,279	10,637	14,131	15,431	17,407
Monochrome sets.....	7,387	5,708	8,382	4,852	5,600	7,296	6,868	4,418	5,937	6,090	6,733
Table and portable.....	4,755	3,274	6,956	4,463	5,841	7,049	6,732	4,354	5,863	6,033	6,706
Console.....	2,526	2,211	1,318	399	259	247	136	64	74	57	27
Combinations.....	106	223	108	-	-	-	-	-	-	-	-
Color sets.....	<sup>3</sup> 100	<sup>3</sup> 120	<sup>3</sup> 2,694	4,631	7,907	10,071	8,411	6,219	8,194	9,341	10,674
Table and portable.....	(NA)	(NA)	(NA)	2,495	4,721	6,700	5,698	4,186	5,785	6,722	7,913
Console.....	(NA)	(NA)	(NA)	2,018	3,106	3,813	2,674	2,008	2,377	2,581	2,730
Combinations.....	(NA)	(NA)	(NA)	118	80	58	39	25	32	28	22

- Represents zero. NA Not available. <sup>1</sup> Comprises products produced by U.S. manufacturers and imports by distributors or dealers for resale. Beginning 1972, also includes products purchased by U.S. manufacturers. <sup>2</sup> Represents products produced or purchased by U.S. manufacturers for sale with their brand name. Beginning 1973, also includes products imported directly by distributors or dealers for resale. <sup>3</sup> Estimated.

Source: Electronic Industries Association, Washington, D.C., *Electronic Market Data Book*, annual.

## NO. 988. PUBLISHING INDUSTRY—SUMMARY: 1963 TO 1977

[Based on the censuses of manufactures and the annual surveys of manufactures; for details, see Appendix III]

INDUSTRY AND YEAR	ESTABLISHMENTS		EMPLOYEES		Value of re- ceipts (mil. dol.)	Cost of ma- terials (mil. dol.)	Value added by ma- nu- facture (mil. dol.)	New capital expen- ditures (mil. dol.)	Gross value of fixed assets (mil. dol.)	Inven- tories, year- end (mil. dol.)
	Total	With 20 or more em- ployees	Num- ber <sup>1</sup> (1,000)	Pay- roll (mil. dol.)						
<b>Newspapers:</b>										
1963-----	8,331	1,865	306.4	1,784.6	4,483.6	1,281.1	3,201.9	135.2	1,954.3	115.3
1967-----	8,094	2,029	335.9	2,223.7	5,757.1	1,573.7	4,184.7	246.7	2,625.7	162.5
1970-----	(NA)	(NA)	349.1	2,715.5	6,906.6	1,768.3	5,194.8	267.8	3,105.8	183.7
1972-----	8,116	2,120	348.5	3,168.1	8,262.8	2,043.5	6,219.9	359.5	3,638.8	152.5
1975-----	(NA)	(NA)	360.4	3,770.2	10,432.6	2,856.4	7,578.4	362.7	4,366.5	302.9
1977-----	8,815	2,131	348.5	4,291.8	12,995.8	3,522.3	9,402.9	475.4	4,992.6	378.5
<b>Periodicals:</b>										
1963-----	2,630	402	67.7	461.1	2,295.7	958.1	1,349.0	33.8	346.2	131.4
1967-----	2,510	454	79.1	633.7	3,085.9	1,234.1	1,868.7	58.0	607.3	164.9
1970-----	(NA)	(NA)	77.1	699.5	3,195.1	1,198.0	1,986.5	73.7	631.0	196.1
1972-----	2,535	453	66.5	708.5	3,510.6	1,404.2	2,109.9	56.8	587.8	197.9
1975-----	(NA)	(NA)	72.9	880.0	4,379.7	1,744.1	2,652.1	62.2	710.6	285.4
1977-----	3,041	536	71.4	1,045.9	6,076.8	2,860.0	3,693.1	84.0	810.5	360.4
<b>Books:</b>										
1963-----	993	256	46.8	280.7	1,534.6	582.3	995.7	25.4	253.9	362.4
1967-----	1,022	287	52.0	389.9	2,134.8	762.8	1,456.6	55.1	337.6	573.2
1970-----	(NA)	(NA)	55.7	480.1	2,434.2	815.7	1,644.8	52.3	418.9	594.4
1972-----	1,205	307	57.1	557.6	2,856.8	959.9	1,935.8	48.4	511.9	629.4
1975-----	(NA)	(NA)	55.5	685.2	3,536.5	1,157.7	2,428.1	75.1	546.0	827.9
1977-----	1,750	348	60.7	849.2	4,881.9	1,585.3	3,172.6	87.3	718.2	1,004.0

NA Not available. <sup>1</sup> Represents the average number of production workers plus the number of other employees in mid-March. <sup>2</sup> Derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments. This result is then adjusted by the addition of value added by merchandising operations, plus the net change in finished goods and work-in-process inventories between the beginning and the end of the year.

Source: U.S. Bureau of the Census, *Census of Manufactures, 1977*, Preliminary Reports, series MC 77 (1)-27.

## No. 989. NEWSPAPERS AND PERIODICALS: 1950 TO 1979

[Prior to 1960, excludes Alaska and Hawaii. Data refer to year of compilation of the Directory cited as the source, i.e., generally to year preceding year shown. See also *Historical Statistics, Colonial Times to 1970*, series R 232-243]

FREQUENCY OF PUBLICATION	1950	1955	1960	1965	1970	1974	1975	1976	1977	1978	1979
<b>Newspapers</b> .....	<b>12,115</b>	<b>11,415</b>	<b>11,315</b>	<b>11,383</b>	<b>11,383</b>	<b>11,296</b>	<b>11,400</b>	<b>11,298</b>	<b>11,089</b>	<b>10,538</b>	<b>9,827</b>
Semiweekly.....	337	324	324	357	423	523	506	511	550	569	543
Weekly.....	9,794	9,126	8,979	8,989	8,903	8,711	8,824	8,735	8,506	7,980	7,357
Daily.....	1,894	1,860	1,854	1,843	1,838	1,806	1,819	1,813	1,811	1,783	1,744
Other.....	90	105	158	194	219	256	251	239	225	206	183
<b>Periodicals</b> .....	<b>6,960</b>	<b>7,648</b>	<b>8,422</b>	<b>8,990</b>	<b>9,573</b>	<b>9,755</b>	<b>9,657</b>	<b>9,872</b>	<b>9,732</b>	<b>9,582</b>	<b>9,719</b>
Weekly.....	1,443	1,602	1,580	1,716	1,856	2,027	1,918	1,915	1,882	1,827	1,764
Seminmonthly <sup>2</sup> .....	416	503	527	550	589	529	537	557	548	541	504
Monthly.....	3,694	3,782	4,113	4,195	4,314	4,123	4,087	4,144	4,019	3,846	3,850
Bimonthly.....	436	608	743	876	957	942	1,009	1,068	1,045	1,031	1,043
Quarterly.....	604	674	895	1,080	1,164	1,093	1,161	1,161	1,149	1,172	1,261
Other.....	367	479	564	623	749	970	1,013	1,037	1,089	1,165	1,207

<sup>1</sup> Due to processing errors, detail will not add to total. <sup>2</sup> Includes fortnightly (every two weeks)

Source: Ayer Press, Bala Cynwyd, Pa., *Ayer Directory Publications*, annual. (Copyright.)

## No. 990. DAILY AND SUNDAY NEWSPAPERS—NUMBER AND CIRCULATION, BY CIRCULATION SIZE-GROUP: 1970 TO 1978

[Circulation as of Sept. 30 of year shown; number of newspapers as of Feb. 1 of following year except, 1977 as of Mar. 30 of the following year]

CIRCULATION SIZE-GROUP	NUMBER OF NEWSPAPERS				CIRCULATION (1,000)				PERCENT OF ALL NEWSPAPERS			
	Daily			Sun-day	Daily			Sun-day	Number		Circulation <sup>2</sup>	
	Total <sup>1</sup>	Morn-ing	Even-ing		Total <sup>1</sup>	Morn-ing	Even-ing		Total daily	Sun-day	Total daily	Sun-day
<b>1970, total</b> .....	<b>1,748</b>	<b>334</b>	<b>1,429</b>	<b>586</b>	<b>62,108</b>	<b>25,934</b>	<b>36,174</b>	<b>49,217</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
500,001 and over.....	11	7	4	17	8,780	6,370	2,410	15,081	.6	2.9	14.1	30.6
250,001-500,000.....	27	11	16	34	9,532	4,167	5,365	11,652	1.5	5.8	15.3	23.7
100,001-250,000.....	92	45	47	62	14,687	7,612	7,075	9,799	5.3	10.6	23.6	19.9
50,001-100,000.....	127	57	70	82	8,394	3,736	4,658	5,661	7.3	14.0	13.5	11.5
25,001-50,000.....	243	69	179	104	8,697	2,398	6,199	3,791	13.9	17.7	13.8	7.7
10,001-25,000.....	489	76	422	146	7,850	1,247	6,603	2,385	28.0	24.9	12.6	4.8
10,000 or less.....	759	69	691	141	4,325	403	3,922	847	43.4	24.1	7.0	1.7
<b>1975, total</b> .....	<b>1,756</b>	<b>339</b>	<b>1,436</b>	<b>639</b>	<b>60,655</b>	<b>25,490</b>	<b>35,165</b>	<b>51,096</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
500,001 and over.....	10	7	3	15	7,716	6,018	1,698	13,548	.6	2.3	12.7	26.5
250,001-500,000.....	26	14	13	34	9,135	4,795	4,340	11,674	1.5	5.3	15.1	22.8
100,001-250,000.....	81	40	41	65	12,832	6,476	6,356	10,575	4.6	10.2	21.2	20.7
50,001-100,000.....	135	62	75	89	9,065	3,999	5,066	6,212	7.7	13.9	14.9	12.2
25,001-50,000.....	259	70	196	132	9,197	2,460	6,737	5,465	14.7	20.7	15.2	10.7
10,001-25,000.....	511	77	441	167	8,345	1,330	7,015	2,759	29.1	26.1	13.8	5.4
10,000 or less.....	734	69	667	137	4,366	412	3,954	863	41.8	21.4	7.2	1.7
<b>1977, total</b> .....	<b>1,753</b>	<b>348</b>	<b>1,426</b>	<b>668</b>	<b>61,495</b>	<b>26,742</b>	<b>34,753</b>	<b>52,429</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
500,001 and over.....	11	8	4	18	8,597	6,439	2,158	15,630	.6	2.7	14.0	29.8
250,001-500,000.....	26	15	11	30	8,560	5,083	3,477	10,324	1.5	4.5	13.9	19.7
100,001-250,000.....	85	42	45	69	13,246	6,610	6,636	11,168	4.8	10.3	21.5	21.3
50,001-100,000.....	137	73	74	89	9,139	4,515	4,624	6,227	7.8	13.3	14.9	11.9
25,001-50,000.....	273	75	204	146	9,559	2,566	6,993	5,269	15.6	21.9	15.5	10.0
10,001-25,000.....	515	63	454	182	8,171	1,080	7,091	2,956	29.4	27.2	13.3	5.6
10,000 or less.....	706	72	634	134	4,223	449	3,774	855	40.3	20.1	6.9	1.6
<b>1978, total</b> .....	<b>1,756</b>	<b>355</b>	<b>1,419</b>	<b>696</b>	<b>61,990</b>	<b>27,657</b>	<b>34,333</b>	<b>53,990</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
500,001 and over.....	10	8	3	19	8,184	6,543	1,641	16,274	.6	2.7	13.2	30.2
250,001-500,000.....	26	14	12	29	8,815	4,893	3,922	9,843	1.5	4.2	14.3	18.1
100,001-250,000.....	90	48	45	71	13,789	7,491	6,298	11,686	5.1	10.2	22.2	21.7
50,001-100,000.....	142	71	77	98	9,283	4,541	4,742	6,850	8.1	14.1	15.0	12.8
25,001-50,000.....	271	75	202	146	9,487	2,607	6,881	5,327	15.4	21.0	15.3	9.8
10,001-25,000.....	519	66	455	191	8,206	1,130	7,076	3,103	29.6	27.4	13.2	5.7
10,000 or less.....	698	73	625	142	4,226	452	3,774	906	39.7	20.4	6.8	1.7

<sup>1</sup> All-day newspapers are counted in both morning and evening columns in their size-group but only once in total. Circulation is divided equally between morning and evening.

<sup>2</sup> Percent calculated on gross totals.

Source: Editor & Publisher Co., Inc., New York, N.Y., *Editor & Publisher International Year Book*, annual (copyright).

# No. 991. DAILY AND SUNDAY NEWSPAPERS—NUMBER AND CIRCULATION, 1950 TO 1978, AND BY STATES, 1978

[Prior to 1960, excludes Alaska and Hawaii. Number of newspapers as of the following dates: 1950–1960, Oct. 1; 1965, Jan. 1; 1970–1976 and 1978, Feb. 1 of the following year; and 1977 as of Mar. 30 of the following year. Circulation figures as of Sept. 30 except, 1950–1965 as of Oct. 1. For English language newspapers only. See also *Historical Statistics, Colonial Times to 1970*, series R 224–231]

YEAR AND STATE	DAILY NEWSPAPERS						SUNDAY PAPERS		
	Total			Morning		Evening		Num- ber	Net paid circula- tion (1,000)
	Num- ber <sup>1</sup>	Circulation		Num- ber	Net paid circula- tion (1,000)	Num- ber	Net paid circula- tion (1,000)		
		Net paid (1,000)	Per capita <sup>2</sup>						
1950.....	1,772	53,829	.476	322	21,266	1,450	32,563	549	46,582
1955.....	1,760	56,147	.472	316	22,183	1,454	33,964	541	46,448
1960.....	1,763	58,882	.466	312	24,029	1,459	34,853	563	47,699
1965.....	1,751	60,358	.436	320	24,107	1,444	36,251	562	48,000
1970.....	1,748	62,108	.416	334	25,934	1,429	36,174	586	49,217
1972.....	1,761	62,510	.401	337	26,078	1,441	36,432	603	49,359
1973.....	1,774	63,147	.399	343	26,524	1,451	36,623	634	51,717
1974.....	1,768	61,877	.384	340	26,145	1,449	35,732	641	51,679
1975.....	1,756	60,655	.370	339	25,490	1,436	35,165	639	51,098
1976.....	1,762	60,977	.367	346	25,858	1,435	35,119	650	51,565
1977.....	1,753	61,495	.364	347	26,742	1,424	34,753	668	52,429
1978, total.....	1,756	61,990	.362	355	27,657	1,419	34,333	696	53,990
Ala.....	25	739	.255	7	205	18	534	17	685
Alaska.....	7	88	.300	1	13	6	76	1	52
Ariz.....	17	575	.319	2	293	15	283	6	525
Ark.....	33	479	.282	5	182	30	298	15	462
Calif.....	124	6,202	.351	29	3,499	97	2,702	47	5,484
Colo.....	28	869	.416	4	339	24	530	9	874
Conn.....	25	918	.368	6	375	19	544	7	680
Del.....	3	157	.343	1	49	2	109	2	124
D.C.....	2	888	1.641	1	560	1	329	2	1,096
Fla.....	50	2,450	.351	18	1,642	33	809	33	2,483
Ga.....	37	1,061	.272	8	452	29	609	15	1,039
Hawaii.....	5	238	.345	1	81	4	157	2	217
Idaho.....	15	198	.300	4	82	11	117	6	162
Ill.....	89	3,362	.382	22	1,869	70	1,493	22	2,762
Ind.....	78	1,646	.395	7	441	71	1,204	18	1,183
Iowa.....	41	898	.392	4	313	38	585	9	752
Kans.....	51	644	.345	6	231	46	413	15	453
Ky.....	27	776	.286	5	316	22	460	12	618
La.....	26	845	.282	5	414	21	431	14	792
Maine.....	9	284	.333	5	213	4	72	1	115
Md.....	13	692	.211	5	235	8	457	4	665
Mass.....	47	2,030	.437	5	904	42	1,126	9	1,533
Mich.....	52	2,458	.345	2	627	50	1,831	17	2,366
Minn.....	30	1,089	.346	5	405	25	684	11	1,042
Miss.....	25	894	.220	5	124	20	269	12	309
Mo.....	53	1,663	.431	9	727	44	937	19	1,159
Mont.....	11	196	.321	4	149	7	47	7	193
Nebr.....	19	493	.400	3	172	16	321	5	389
Nev.....	9	199	.387	3	81	6	117	5	190
N.H.....	9	185	.270	1	32	9	152	2	78
N.J.....	28	1,743	.299	7	668	21	1,075	15	1,486
N. Mex.....	21	263	.288	1	80	20	184	14	244
N.Y.....	79	6,952	.491	21	4,256	59	2,696	34	6,495
N.C.....	52	1,357	.312	10	614	42	744	24	1,121
N. Dak.....	10	164	.322	2	28	9	136	3	96
Ohio.....	96	3,346	.398	9	863	87	2,483	27	2,495
Okl.....	54	878	.387	9	425	45	452	46	895
Oreg.....	22	677	.350	3	290	19	387	5	581
Pa.....	105	3,865	.410	31	1,337	78	2,527	14	3,010
R.I.....	7	314	.419	1	72	6	242	2	251
S.C.....	20	593	.266	8	395	12	198	8	474
S. Dak.....	13	177	.330	1	3	12	174	4	125
Tenn.....	32	1,120	.328	7	465	25	655	14	1,002
Tex.....	114	3,435	.344	25	1,614	89	1,821	89	3,677
Utah.....	5	268	.290	1	106	4	161	4	265
Vt.....	8	122	.321	2	70	6	53	3	77
Va.....	33	1,081	.265	10	493	23	588	13	827
Wash.....	23	1,117	.375	5	322	19	796	13	1,059
W. Va.....	28	479	.329	9	214	19	265	9	390
Wis.....	36	1,229	.334	4	258	32	971	8	900
Wyo.....	10	94	.289	6	64	4	30	3	65

<sup>1</sup> Beginning 1955, figures adjusted for all-day papers listed in morning and evening figures (circulations divided between them, but counted only once in total). <sup>2</sup> Persons 14 years old and over. Per capita based on total resident population enumerated as of April 1, 1950, 1960, and 1970, and estimates as of July 1 for other years.

Source: Editor & Publisher Co., Inc., New York, N.Y., *Editor & Publisher International Year Book*, annual. (Copyright.)

## NO. 992. NEWSPAPERS AND PERIODICALS—CIRCULATION AND RECEIPTS: 1967 TO 1977

(Receipts in millions of dollars. See also *Historical Statistics, Colonial Times to 1970*, series R 244-257)

TYPE OF PUBLICATION	1967			1972			1977		
	Circulation per issue <sup>1</sup> (1,000)	Receipts		Circulation per issue <sup>1</sup> (1,000)	Receipts		Circulation per issue <sup>1</sup> (1,000)	Receipts	
		Total	Advertising		Total	Advertising		Total	Advertising
Newspapers, total <sup>2</sup> .....	(NA)	\$5,550	3,896	(NA)	\$7,908	5,600	(NA)	\$12,471	8,804
Daily and Sunday.....	(NA)	\$4,962	\$3,653	(NA)	\$6,961	\$5,214	(NA)	\$10,693	\$8,069
Morning <sup>4</sup> .....	3,442	206	135	3,770	280	184	4,503	426	277
Evening <sup>4</sup> .....	14,446	909	684	12,917	1,021	748	12,081	1,254	927
Morning and Sunday.....	31,623	1,301	951	31,726	1,806	1,341	32,983	2,696	1,957
Evening and Sunday.....	31,552	1,055	780	30,357	1,641	1,254	31,071	2,549	1,971
Morning and evening <sup>4</sup> .....	651	41	31	765	63	45	549	60	44
Morning, evening, and Sunday.....	36,942	1,443	1,065	37,406	2,138	1,634	41,286	3,661	2,857
Weekly and other.....	(NA)	321	243	(NA)	493	386	(NA)	1,176	735
Weekly <sup>5</sup> .....	(6)	248	182	(6)	377	291	35,247	577	400
Periodicals, total.....	(NA)	\$2,668	1,547	(NA)	\$3,197	1,693	(NA)	\$5,529	(NA)
Farm.....	12,115	57	46	13,103	76	62	(NA)	\$106	(NA)
General.....	10,219	41	32	11,092	49	38	(S)	58	(NA)
Specialized.....	1,896	16	14	2,011	27	23	(S)	45	(NA)
Specialized.....	(NA)	\$675	\$525	(NA)	\$910	\$648	(S)	1,298	841
Industrial, engineering, techn'l.....	7 12,952	353	308	17,609	359	280	(S)	1,298	841
Merchandising.....	(NA)	145	121	(S)	297	215	(S)	1,298	841
Professional, institutional, service.....	7 8,303	159	87	11,924	250	152	(S)	1,298	841
General <sup>6</sup> .....	(NA)	1,473	880	(NA)	1,729	896	(S)	3,261	1,617
Comics.....	15,178	9	(2)	(S)	(D)	(D)	(D)	(D)	(D)
Women and home services.....	74,541	362	245	(S)	488	295	361,066	682	487
General entertainment.....	136,567	847	457	(S)	855	374	151,626	1,153	(X)
General news.....	9,652	204	146	19,605	323	212	14,483	553	294
Business news.....	1,409	40	25	1,489	53	12	2,186	(D)	(D)
Other.....	7 127,215	284	97	(S)	282	88	(S)	265.2	(D)

D Withheld to avoid disclosing figures for individual companies. NA Not available. S Does not meet publication standards. Z Less than \$500,000. <sup>1</sup> Includes paid, free bulk, etc. "Issue" defined as the sum of all editions published on a given day. Figures are totals of average circulation per issue. <sup>2</sup> Includes foreign language newspapers. <sup>3</sup> Includes types or amounts not specified by kind. <sup>4</sup> No Sunday editions. <sup>5</sup> Includes those issued on Sunday only.

<sup>6</sup> Not shown because not reported by many small newspapers. <sup>7</sup> Partially estimated. <sup>8</sup> Includes types not specified.

Source: U.S. Bureau of the Census, *Census of Manufactures: 1967*, vol. II, part 2; and *Census of Manufactures: 1972*, Bulletin No. MC 72(2)-27A, *Census of Manufactures: 1977*, series MC 77 (1)-27A.

## NO. 993. NEWSPAPERS, PERIODICALS, BOOK PUBLISHING AND PRINTING—NUMBER OF COMPANIES, AND SHARE OF TOTAL SHIPMENTS BY LARGEST FIRMS: 1947 TO 1972

(Prior to 1967, excludes Alaska and Hawaii. Largest companies are ranked by value added by manufacture)

ITEM	NEWSPAPERS					PERIODICALS				
	1947	1958	1963	1967	1972	1947	1958	1963	1967	1972
Number of companies.....1,000.....	8.1	7.9	8.0	7.6	7.5	2.1	2.2	2.6	2.4	2.5
Value of shipments.....bil. dol.....	1.9	3.6	4.5	5.8	8.3	1.1	1.7	2.3	3.1	3.5
Percent accounted for by:										
4 largest companies.....	21	17	15	16	17	34	31	28	24	26
8 largest companies.....	26	24	22	25	28	43	41	42	37	38
20 largest companies.....	36	35	36	40	43	58	55	59	56	54
50 largest companies.....	(NA)	51	52	56	60	(NA)	69	73	72	69
ITEM	BOOK PUBLISHING					BOOK PRINTING				
	1947	1958	1963	1967	1972	1947	1958	1963	1967	1972
Number of companies.....1,000.....	.6	.9	.9	1.0	1.1	(NA)	.8	.7	.7	.7
Value of shipments.....bil. dol.....	.5	1.0	1.5	2.1	2.9	.1	.4	.5	.8	.9
Percent accounted for by:										
4 largest companies.....	18	16	20	20	19	(NA)	24	19	21	24
8 largest companies.....	29	29	33	32	31	(NA)	34	30	30	36
20 largest companies.....	48	48	56	57	56	(NA)	51	48	48	53
50 largest companies.....	(NA)	69	76	77	77	(NA)	68	66	64	68

NA Not available.

Source: U.S. Bureau of the Census, *Census of Manufactures, 1972*, special report, *Concentration Ratios in Manufacturing*, MC 72 (SR)-2.

### No. 994. NEWSPRINT CONSUMPTION AND NEWSPAPER PAGES: 1960 TO 1978

[Consumption data based on a 30-lb. weight. In 1974, a number of newsprint producers reduced the basic weight of newsprint from 32 pounds, for 500 sheets measuring 24" by 36", to 30 pounds. Data prior to 1974 have been adjusted for comparability. See table 1284 for additional newsprint data. See also *Historical Statistics, Colonial Times to 1970*, series R 218-223]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>Newsprint consumption,</b>									
<b>Total</b> .....mil. sh. tons.....	7.0	8.0	9.1	10.2	10.3	9.3	9.6	10.2	10.9
Per capita <sup>2</sup> .....lb.....	77.4	82.8	89.5	97.2	95.6	86.1	89.3	94.6	99.7
By newspapers <sup>3</sup> .....mil. sh. tons.....	6.5	7.4	8.5	9.5	9.6	8.6	8.9	9.5	10.2
Advertising content <sup>4</sup> .....percent.....	59.4	60.5	61.5	65.5	65.6	63.7	63.5	<sup>5</sup> 63.1	<sup>5</sup> 63.4
Other content <sup>4</sup> .....percent.....	40.6	39.5	38.5	34.5	34.4	36.3	36.5	<sup>5</sup> 36.9	<sup>5</sup> 36.6
<b>Newspaper pages per issue</b> .....									
Daily.....	43	50	47	59	60	57	55	54	60
Sunday.....	142	167	145	182	188	180	177	177	196

<sup>1</sup> Estimated. <sup>2</sup> Based on U.S. Bureau of the Census estimated resident population as of July 1. <sup>3</sup> Estimated. Source: U.S. Industry and Trade Administration, unpublished data. <sup>4</sup> Based on data from Media Records, Inc. <sup>5</sup> Source: Editor and Publisher Co., Inc., New York, N.Y., *Editor and Publisher*, weekly (copyright).

Source: Except as noted, American Newspaper Publishers Association, Reston, Va., unpublished data.

### No. 995. COPYRIGHT REGISTRATION, BY SUBJECT MATTER: 1960 TO 1978

[In thousands. For years ending June 30 except beginning 1977, ending Sept. 30. Comprises claims to copyright registered for both U.S. and foreign works. See also *Historical Statistics, Colonial Times to 1970*, series W 82-95]

SUBJECT MATTER OF COPYRIGHT	1960	1965	1970	1975	1977	SUBJECT MATTER OF COPYRIGHT	1978 <sup>1</sup>
<b>Total</b> .....	243.9	293.6	316.5	401.3	452.7	<b>Total</b> <sup>2</sup> .....	415.7
Books.....	60.0	76.1	88.4	111.9	122.1	Monographs.....	112.9
Periodicals (issues).....	64.2	78.3	88.9	95.1	106.5	Serials.....	110.9
Contributions to newspapers, periodicals.....	3.3	2.1	1.9	2.6	3.4	Machine readable works.....	.0
Lectures, sermons, addresses.....	.8	.8	1.7	1.9	2.0	Musical works.....	114.8
Dramatic or dramatico-musical compositions.....	2.4	3.3	3.4	4.9	5.5	Dramatic works, including any accompanying music.....	6.1
Musical compositions.....	65.6	80.9	88.9	114.8	131.2	Choreography and pantomimes.....	(2)
Maps.....	1.8	3.3	1.9	1.8	1.8	Motion pictures and filmstrips.....	8.5
Works of art, models, or designs.....	5.3	5.7	6.8	11.0	13.7	Two dimensional works of fine and graphic art, including, prints and art reproductions.....	12.8
Reproductions of works of art.....	2.5	3.2	3.0	5.0	4.4	Sculptural works.....	.8
Scientific or technical drawings.....	.8	1.2	.8	.9	1.4	Technical drawings and models.....	1.0
Photographs, prints, and illustrations.....	4.2	3.8	4.5	6.6	8.9	Photographs.....	1.4
Commercial prints and labels.....	8.1	7.5	5.3	4.7	5.0	Cartographic works.....	1.2
Motion picture photoplays.....	2.8	2.5	1.2	1.0	2.6	Commercial prints and labels.....	7.8
Motion pictures not photoplays.....	.7	1.2	1.3	2.0	2.6	Works or applied art.....	6.1
Sound recordings <sup>2</sup> .....	(X)	(X)	(X)	8.9	10.6	Sound recordings.....	9.1
Renewals of all classes.....	21.4	23.5	23.3	28.2	31.0	Multimedia works.....	.6
						Renewals.....	21.2

X Not applicable. Z Less than 50. <sup>1</sup> Due to a change in the copyright law, data for 1978 are not comparable with previous years. Extrapolated from 11 months. Includes 50,000 registrations in-process but not completed on Sept. 30, 1978. <sup>2</sup> Registrations began in 1972.

Source: The Library of Congress, *Annual Report*.

### No. 996. BOOKS—IMPORTS AND TRANSLATIONS INTO ENGLISH: 1976 TO 1978

[Data on 18 month basis. See headnote, table 998. Imports cover all books printed abroad and distributed in U.S. on exclusive basis. See also headnote, table 997]

SUBJECT	IMPORTS			SUBJECT	IMPORTS			LANGUAGE	TRANSLATIONS		
	1976	1977	1978		1976	1977	1978		1976	1977	1978
<b>Total</b> .....	5,126	4,663	3,870	<b>Total</b> .....	80	68	57	<b>Total</b> .....	1,534	1,689	1,345
Agriculture.....	90	97	77	Law.....	221	185	141	French.....	354	397	286
Art.....	149	137	137	Literature.....	531	462	446	German.....	247	312	237
Biography.....	139	133	130	Medicine.....	37	24	17	Italian.....	65	66	62
Business.....	84	88	51	Musical.....	152	140	101	Oriental.....	89	76	70
Education.....	156	131	117	Philosophy, psychology.....	203	168	135	Russian.....	135	189	102
Fiction.....	79	77	81	Poetry, drama.....	110	85	87	Scand'vian.....	70	49	34
General works.....	148	162	107	Religion.....	865	835	710	Spanish.....	80	85	60
History.....	295	225	203	Science.....	1,093	971	806	Other.....	494	515	494
Home economics.....	38	37	45	Sociology, economics.....	124	105	71				
Juvenile.....	36	35	33	Sports, recreation.....	272	331	193				
Language.....	127	104	74	Technical books.....	97	63	51				

Source: R. R. Bowker Co., New York, N.Y., *Publishers Weekly*. (Copyright by Xerox Corporation.)

## NO. 997. NEW BOOKS AND NEW EDITIONS PUBLISHED, BY SUBJECT: 1960 TO 1978

[See headnote, table 998. Comprises new books (published for first time) and new editions (published with changes in text or format). Excludes government publications; subscription books, except encyclopedias; dissertations; periodicals and quarterlies; and pamphlets under 49 pages. 1960 data not strictly comparable with later years due to changes in classifications. See also *Historical Statistics, Colonial Times to 1970*, series R 191-216]

SUBJECT	1960	1965	1970	1975	1976	1977	1978		
							Total	New books	New editions
<b>Total</b> .....	<b>15,012</b>	<b>28,595</b>	<b>36,071</b>	<b>39,372</b>	<b>41,698</b>	<b>42,780</b>	<b>41,216</b>	<b>31,802</b>	<b>9,414</b>
Agriculture.....	166	270	285	456	600	594	552	408	144
Art.....	470	974	1,169	1,601	1,681	1,795	1,483	1,229	254
Biography.....	879	685	1,536	1,908	2,086	2,104	1,891	1,454	437
Business.....	305	537	797	820	983	1,077	1,248	925	323
Education.....	348	964	1,178	1,038	1,078	1,194	1,063	871	192
Fiction.....	2,440	3,241	3,137	3,805	3,836	3,681	3,693	2,455	1,235
General reference.....	282	634	846	1,113	1,261	1,448	1,310	1,047	263
History.....	865	1,682	1,995	1,823	2,295	2,022	2,016	1,361	655
Home economics.....	197	300	321	728	806	795	845	717	128
Juvenile.....	1,725	2,895	2,640	2,292	2,478	2,918	2,909	2,617	292
Language.....	228	527	472	438	523	556	458	303	155
Law.....	394	436	604	915	861	948	1,065	786	279
Literature.....	736	1,686	3,085	1,904	1,694	1,866	1,800	1,254	546
Medicine.....	520	1,218	1,476	2,282	2,587	2,833	2,788	2,177	611
Music.....	98	300	404	305	366	373	439	231	208
Philosophy, psychology.....	480	979	1,280	1,374	1,386	1,372	1,367	1,048	319
Poetry, drama.....	482	994	1,474	1,601	1,582	1,437	1,297	972	325
Religion.....	1,104	1,855	1,788	1,778	2,058	2,121	2,180	1,750	430
Science.....	1,089	2,562	2,358	2,942	2,852	3,015	2,877	2,155	722
Sociology, economics.....	754	3,242	5,912	6,590	6,993	6,814	6,465	5,259	1,206
Sports, recreation.....	286	591	799	1,225	1,224	1,119	1,160	948	212
Technology.....	698	1,153	1,141	1,720	1,888	2,218	1,896	1,511	385
Travel.....	466	883	1,394	794	581	480	414	324	90

## NO. 998. BOOKS AND PERIODICALS—AVERAGE RETAIL PRICES: 1970 TO 1979

[Prior to 1977, book entries comprise all titles submitted for listing in *Bowker's Weekly Record* during calendar year. Beginning 1977, covers listings in year shown, plus titles issued in that year which were listed in following six months]

SUBJECT	BOOKS (per vol.)				SUBJECT	PERIODICALS <sup>5</sup>			
	1970	1975	1977	1978		1970	1975	1978	1979
<b>Hard cover books <sup>1</sup></b> .....	<b>\$11.66</b>	<b>\$16.19</b>	<b>\$19.22</b>	<b>\$19.30</b>	<b>Total</b> .....	<b>\$10.41</b>	<b>\$19.94</b>	<b>\$27.58</b>	<b>\$30.37</b>
Agriculture.....	10.42	13.72	16.24	17.24	Agriculture.....	5.17	9.70	12.48	14.16
Art.....	16.16	17.90	21.24	21.11	Business and economics.....	9.03	15.26	21.09	22.97
Biography.....	11.49	14.09	15.34	15.76	Chemistry and physics.....	33.45	76.84	108.22	118.33
Business.....	12.45	16.54	18.00	19.27	Children's periodicals.....	2.65	4.69	6.34	6.70
Economics <sup>2</sup> .....	12.38	21.65	29.88	29.66	Education.....	7.09	14.72	19.49	21.61
Education.....	10.75	10.81	12.95	13.86	Engineering.....	12.07	26.64	39.77	42.95
Fiction.....	5.51	8.31	10.09	11.27	Fine and applied arts.....	7.50	11.09	14.82	17.42
Gen. reference.....	(NA)	21.60	30.99	25.51	History.....	6.90	11.14	13.71	14.67
History.....	14.75	15.85	17.12	17.20	Home economics.....	7.56	14.24	21.67	23.21
Home economics.....	7.30	10.27	11.16	11.27	Industrial arts.....	7.59	10.59	15.48	17.65
Juveniles.....	4.05	5.82	6.65	6.58	Journalism, communications.....	6.36	14.70	19.95	23.86
Language.....	(NA)	15.80	14.06	16.67	Labor and industrial relations.....	3.59	7.40	13.24	15.74
Law.....	16.41	23.22	25.04	24.26	Law.....	9.84	15.00	18.74	20.98
Literature.....	11.05	14.89	16.78	17.98	Library science.....	7.88	14.18	19.34	20.82
Medicine.....	18.05	22.15	24.00	25.01	Literature and languages.....	6.15	10.41	12.84	13.84
Music.....	11.44	14.83	20.13	24.68	Mathematics, botany, geology, and general science.....	18.11	35.95	54.16	58.84
Poetry and drama.....	9.35	10.76	13.63	14.86	Medicine.....	23.44	42.38	57.06	63.31
Philosophy, psych.....	10.72	12.75	14.43	14.75	Philosophy and religion.....	5.84	9.05	11.66	13.25
Religion.....	8.51	11.16	12.26	13.04	Physical ed. and recreation.....	5.34	7.80	10.79	12.27
Science.....	14.95	22.81	24.58	26.20	Political science.....	6.72	12.79	15.62	17.47
Sports <sup>3</sup> .....	9.96	10.97	12.28	12.96	Psychology.....	17.12	27.51	34.21	38.10
Technology.....	14.91	19.06	23.61	22.64	Sociology and anthropology.....	7.31	14.85	21.58	23.70
Travel.....	(NA)	15.43	18.44	17.12	Zoology.....	16.86	27.37	37.05	40.15
Paperbacks:					General interest periodicals.....	8.47	14.36	17.26	18.28
Mass market <sup>4</sup> .....	.95	1.46	1.72	1.90					
Trade or higher.....	4.81	5.24	5.93	6.31					

NA Not available. <sup>1</sup> Excludes government documents, subscription books, and dissertations.  
<sup>2</sup> Includes sociology. <sup>3</sup> Includes recreation. <sup>4</sup> "Pocket-sized" books sold through outlets other than bookstores (e.g. grocery or drug stores, etc.). <sup>5</sup> Average annual subscription prices.  
 Source of tables 997 and 998: R. R. Bowker Co., New York, N.Y., book prices, *Publishers Weekly*; periodical prices, *Bowker Annual of Library and Book Trade Information*, and *Library Journal*, Sept. 1979. (Copyright by Xerox Corporation.)

# No. 999. BOOKS AND PAMPHLETS—QUANTITY SOLD AND VALUE OF RECEIPTS: 1967 TO 1977

[Includes number of copies sold and dollar receipts reported by establishments classified in the "Books, publishing and printing" industry and by establishments reporting these receipts as "secondary" activities in other industries]

TYPE OF PUBLICATION	1967		1972		1977	
	Copies sold (mil.)	Receipts (mil. dol.)	Copies sold (mil.)	Receipts (mil. dol.)	Copies sold (mil.)	Receipts (mil. dol.)
<b>Total</b> .....	(NA)	2,255.3	(NA)	2,915.4	(NA)	4,975.5
<b>All books</b> .....	(NA)	2,081.2	(NA)	2,711.2	(NA)	4,789.9
Textbooks.....	(NA)	1 733.6	(NA)	1 809.6	(NA)	1 1,434.2
Elementary, grades 1-8:						
Hardbound.....	85.1	180.6	65.8	162.4	64.3	246.9
Paperbound.....	30.0	24.3	44.5	57.5	44.8	96.9
High school, grades 9-12:						
Hardbound.....	36.3	122.7	40.5	132.4	32.5	174.7
Paperbound.....	11.6	14.9	7.3	12.8	9.8	28.4
College, grades 13 and over: 2						
Hardbound.....	41.2	226.6	57.1	277.3	57.4	468.1
Paperbound.....	16.7	32.7	(S)	45.1	24.7	121.2
Workbooks, paperbound.....	124.3	88.6	97.1	88.7	(S)	222.9
Standardized tests, paperbound 3	188.0	28.5	24.1	14.2	(S)	27.1
General reference books.....	(NA)	(NA)	(NA)	1 235.3	(NA)	1 315.7
Subscription 4.....	33.1	216.3	(S)	198.5	(S)	232.4
Other.....	(NA)	(NA)	(S)	33.4	(S)	72.1
Technical, scientific, and professional books.....	(NA)	1 240.2	(NA)	1 403.0	(NA)	1 718.3
Law, designed for the profession.....	8.4	74.0	28.2	146.9	15.2	266.3
Medical, designed for the profession 5.....	8.5	41.0	(S)	59.1	11.2	138.9
Business, nonfiction, for adults.....	3.7	20.1	5.3	42.0	4.7	35.5
Other.....	15.5	93.5	(S)	135.1	29.4	211.0
Religious books.....	(NA)	1 110.4	(NA)	1 131.2	(NA)	1 245.6
Hardbound and paperbound:						
Bibles, complete editions; testaments.....	10.5	36.7	29.3	52.6	19.4	82.8
Hymnals and devotionals 6.....	7.8	15.4	6.6	9.0	9.2	21.0
Other, fiction or nonfiction: 7						
Hardbound.....	14.7	29.7	18.3	30.0	22.8	66.8
Paperbound.....	24.1	15.7	39.7	28.3	48.3	52.2
General books, trade, etc.....	(NA)	1 657.7	(NA)	1 1,006.7	(NA)	1 1,907.5
Book club books, hardbound and paperbound.....	147.2	201.5	112.2	131.3	146.1	340.1
Wholesale paperbound books, digest size.....	201.1	67.7	159.8	90.3	566.7	460.1
Adult trade books, fiction or nonfiction: 8						
Hardbound.....	52.7	148.9	(S)	232.1	86.8	365.1
Paperbound.....	148.6	82.7	385.8	220.5	74.0	144.0
Juvenile, fiction and nonfiction: 8						
\$1.00 and over retail.....	65.3	107.5	63.8	88.2	105.7	149.7
Under \$1.00 retail.....	144.3	35.1	(D)	(D)		
Other books, excluding pamphlets.....	(NA)	(NA)	(NA)	1 125.4	(NA)	1 119.9
Hardbound.....	29.5	108.1	(S)	71.0	15.9	66.0
Paperbound.....	(S)	(S)	25.6	29.2	(S)	31.0
<b>Pamphlets</b> .....	(S)	(S)	(NA)	48.7	(NA)	1 48.7
Religious.....	69.9	2.1	(NA)	(NA)	182.2	39.5
Other.....	(S)	(S)	(NA)	(NA)		
<b>Books and pamphlets, not specified by kind</b> .....	(NA)	97.0	(NA)	155.5	(NA)	314.1

D Withheld to avoid disclosing figures for individual companies. NA Not available.

S Does not meet publication standards.

1 Includes receipts not specified by kind, as follows (in millions of dollars): Textbooks, 1967, 14.7; 1972, 19.2; and 1977, 24.0; general reference, 1972, 3.4; 1977, 5.6; technical, scientific, and professional, 1967, 11.6; 1972, 19.9; and 1977, 33.3; religions, 1967, 12.9; 1972, 11.3; and 1977, 11.4; general, 1967, 14.3; 1972, withheld; and 1977, 42.7; other, excluding pamphlets, 1972, 25.2; 1977, 6.1; pamphlets, 1977, 4.6.

2 Includes private business and secretarial school, post-high vocational schools, institutes, and training courses of college grade. 3 Objective tests, manuals, etc.; includes answer sheets.

4 Represents books sold direct to the consumer through agents or distributors, usually on installment plan of payment. Includes multivolume encyclopedias, children's literature, biblical sets, etc. Copies sold represent number of volumes rather than sets. 5 Includes nursing and dental subjects.

6 Includes missals and prayer books.

7 For adults and juveniles.

8 Sold primarily through booksellers or book dealers (retail and wholesale) at trade discounts. Juvenile books represent hardbound and paperbound books, excluding toy books.

Source: U.S. Bureau of the Census, *Census of Manufactures: 1963*, vol. II, part 1; *Census of Manufactures: 1967*, vol. II, part 2; *Census of Manufactures: 1972*, MC 72(2)-27A; and *Census of Manufactures: 1977* SIC 2731, *Book Publishing*.



## No. 1000. ADVERTISING—ESTIMATED EXPENDITURES: 1950 TO 1978

[In millions of dollars. 1978 preliminary. See also *Historical Statistics, Colonial Times to 1970*, series T 444-446]

YEAR	Total	National	Local	YEAR	Total	National	Local	YEAR	Total	National	Local
1950-----	5,700	3,260	2,440	1968-----	18,090	10,800	7,290	1974-----	26,780	14,760	12,020
1955-----	9,160	5,380	3,770	1969-----	19,420	11,400	8,020	1975-----	28,230	15,410	12,820
1960-----	11,960	7,305	4,655	1970-----	19,550	11,850	8,200	1976-----	33,720	18,585	15,135
1965-----	15,260	9,340	5,910	1971-----	20,740	11,775	8,965	1977-----	38,120	21,055	17,065
1966-----	16,630	10,150	6,480	1972-----	23,300	13,030	10,270	1978-----	43,740	24,045	19,695
1967-----	16,870	10,210	6,660	1973-----	25,120	13,775	11,345				

## No. 1001. ADVERTISING—INDEXES OF NATIONAL ADVERTISING EXPENDITURES, BY MEDIUM: 1950 TO 1978

[1967=100. Based on the average monthly expenditure for those major media which give national coverage. See also *Historical Statistics, Colonial Times to 1970*, series T 472-484]

MEDIUM	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978
General index.....	25	49	67	90	112	125	130	140	146	183	210	241
Network television.....	6	38	56	85	114	124	135	147	158	196	238	269
Spot television.....	3	26	53	90	125	133	139	151	164	218	223	263
Magazines.....	38	56	73	93	104	116	116	121	118	144	174	208
Weeklies.....	40	61	81	94	95	94	90	97	94	115	139	179
Women's.....	46	57	65	95	107	130	128	132	130	162	200	238
Monthlies.....	28	43	64	90	120	148	161	161	155	187	222	244
Newspapers.....	61	84	92	93	105	130	131	141	144	178	198	214

Source of tables 1000 and 1001: McCann-Erickson, Inc., New York, N.Y. Compiled for Crain Communications, Inc. in *Advertising Age* (copyright).

## No. 1002. ADVERTISING—ESTIMATED EXPENDITURES, BY MEDIUM: 1965 TO 1978

[In millions of dollars, except percent. See also *Historical Statistics, Colonial Times to 1970*, series R 106-109, R 123-126, and T 444-471]

MEDIUM	EXPENDITURES (mil. dol.)						PERCENT					
	1965	1970	1975	1976	1977	1978, prel.	1965	1970	1975	1976	1977	1978, prel.
Total.....	15,250	19,550	28,230	33,720	38,120	43,740	100.0	100.0	100.0	100.0	100.0	100.0
National.....	9,340	11,350	15,410	18,585	21,055	24,045	61.2	58.1	54.6	55.1	55.2	55.0
Local.....	5,910	8,200	12,820	15,135	17,065	19,695	38.8	41.9	45.4	44.9	44.8	45.0
Newspapers.....	4,426	5,704	8,442	9,910	11,132	12,690	29.0	29.2	29.9	29.4	29.2	29.0
National.....	784	891	1,221	1,502	1,677	1,810	5.1	4.6	4.3	4.5	4.4	4.1
Local.....	3,642	4,813	7,221	8,408	9,455	10,880	23.9	24.6	25.6	24.9	24.8	24.9
Magazines.....	1,161	1,292	1,465	1,789	2,162	2,595	7.6	6.6	5.2	5.3	5.7	5.9
Weeklies.....	610	617	612	748	903	1,155	4.0	3.2	2.2	2.2	2.4	2.7
Women's.....	269	301	368	457	565	670	1.8	1.5	1.3	1.4	1.5	1.5
Monthlies.....	282	374	485	584	694	760	1.8	1.9	1.7	1.7	1.8	1.7
Farm publications.....	71	62	74	86	90	105	.5	.3	.3	.3	.2	.2
Television.....	2,515	3,596	5,263	6,721	7,612	8,850	16.5	18.4	18.6	19.9	20.0	20.2
Network.....	1,237	1,658	2,306	2,857	3,460	3,910	8.1	8.5	8.2	8.5	9.1	8.9
Spot.....	892	1,234	1,623	2,154	2,204	2,600	5.9	6.3	5.7	6.4	5.8	5.9
Local.....	386	704	1,334	1,710	1,948	2,340	2.5	3.6	4.7	5.0	5.1	5.4
Radio.....	917	1,308	1,980	2,330	2,634	2,955	6.0	6.7	7.0	6.9	6.9	6.8
Network.....	60	56	83	105	137	160	.4	.3	.3	.3	.4	.4
Spot.....	275	371	436	518	546	610	1.8	1.9	1.5	1.5	1.4	1.4
Local.....	582	881	1,461	1,707	1,951	2,185	3.8	4.5	5.2	5.1	5.1	5.0
Direct mail.....	2,324	2,766	4,181	4,813	5,333	6,080	15.2	14.1	14.8	14.3	14.0	13.8
Business papers.....	671	740	919	1,035	1,221	1,420	4.4	3.8	3.3	3.1	3.2	3.3
Outdoor.....	180	234	335	383	418	465	1.2	1.2	1.2	1.1	1.1	1.1
National.....	120	154	220	252	290	310	.8	.8	.8	.7	.8	.7
Local.....	60	80	115	131	128	155	.4	.4	.4	.4	.3	.4
Miscellaneous.....	2,985	3,848	5,571	6,653	7,518	8,680	19.6	19.7	19.7	19.7	19.7	19.7
National.....	1,745	2,126	2,882	3,474	3,935	4,495	11.5	10.9	10.2	10.3	10.3	10.3
Local.....	1,240	1,722	2,689	3,179	3,583	4,185	8.1	8.8	9.5	9.4	9.4	9.4

Source: McCann-Erickson, Inc., New York, N.Y. Compiled for Crain Communications, Inc. in *Advertising Age* (copyright). Percentages derived by U.S. Bureau of the Census.

### No. 1003. TELEVISION ADVERTISING—EXPENDITURES FOR NATIONAL NETWORK ADVERTISING: 1975 TO 1978

[In millions of dollars. Excludes spot advertising. See table 1004]

TYPE OF PRODUCT	1975	1976	1977	1978	TYPE OF PRODUCT	1975	1976	1977	1978
<b>Expenditures.....</b>	<b>2,431</b>	<b>2,992</b>	<b>3,619</b>	<b>4,105</b>	<b>Jewelry and cameras.....</b>	<b>42</b>	<b>56</b>	<b>80</b>	<b>103</b>
Apparel, footwear, and accessories.....	55	72	99	115	Laundry soaps, cleansers, and polishes.....	204	248	279	275
Automotive.....	235	289	344	416	Office equip., stationery, and supplies.....	22	24	27	32
Beer and wine.....	70	94	135	200	Pet products.....	67	100	104	123
Building material, equipment and fixtures.....	24	34	42	53	Proprietary medicines.....	273	308	334	346
Confectionery, soft drinks.....	85	102	125	169	Publishing and media.....	8	9	12	32
Consumer services.....	51	65	84	114	Records, tapes, radios, and TV sets.....	17	20	35	46
Dept. and discount stores.....	56	64	89	97	Tobacco products and supplies.....	20	21	12	9
Entertainm't and amusem't.....	66	85	114	164	Toiletries and toilet goods.....	415	468	576	589
Food and food products.....	403	520	626	669	Toys and sporting goods.....	49	64	89	91
Gas, lubricants, etc.....	44	48	64	61	Travel, hotels, and resorts.....	21	20	32	42
Household equip., supplies, and furnishings.....	134	154	182	203	All other.....	30	80	85	89
Insurance.....	40	47	50	67					

<sup>1</sup> Includes optical goods.

### No. 1004. TELEVISION ADVERTISING—ESTIMATED TIME CHARGES FOR SPOT ADVERTISING: 1975 TO 1978

[In millions of dollars. Spot television advertising, as distinguished from network advertising in table 1003, is defined as any television activity sponsored by a national or regional advertiser, and selected and bought on a station-by-station basis. Includes announcements between both network and nonnetwork programs as well as complete programs. Excludes activity designated as "retail/local." Each commercial is locally originated, whereas network programs and commercials are centrally originated. Data represent activity in the 75 markets monitored by Broadcast Advertisers Reports, Inc. (BAR), covering approximately 263 stations]

TYPE OF PRODUCT	1975	1976	1977	1978	TYPE OF PRODUCT	1975	1976	1977	1978
<b>Estimated time charges.....</b>	<b>1,706</b>	<b>2,229</b>	<b>2,312</b>	<b>2,593</b>	<b>Insurance.....</b>	<b>24</b>	<b>23</b>	<b>26</b>	<b>36</b>
Apparel, footwear, and accessories.....	46	51	47	58	Jewelry, optical goods, and cameras.....	15	22	26	45
Automotive.....	136	190	210	237	Laundry soaps, cleansers, polishes.....	96	124	108	134
Beer and wine.....	69	78	91	113	Pet products.....	49	66	64	44
Building material, equipment, and fixtures.....	23	36	39	51	Proprietary medicines.....	97	97	90	103
Confectionery, soft drinks.....	135	187	190	241	Publishing and media.....	33	42	75	80
Consumer services.....	50	56	65	71	Records, tapes, radios, and TV sets.....	81	104	143	124
Food and food products.....	388	482	469	543	Toiletries and toilet goods.....	158	213	192	217
Gasoline, lubricants, etc.....	27	44	46	50	Toys and sporting goods.....	84	128	126	143
Household equipment and supplies, furnishings.....	104	140	158	161	Travel, hotels, and resorts.....	46	66	66	68
					All other.....	41	80	81	74

Source of tables 1003 and 1004: Television Bureau of Advertising, Inc., New York, N.Y., from data compiled by Broadcast Advertisers Reports, Inc., New York, N.Y.

### No. 1005. NEWSPAPER ADVERTISING—EXPENDITURES FOR 64 CITIES: 1957 TO 1978

[In millions of dollars. Based on stratified random sample of 64 cities of different size, including suburban as well as central city newspapers]

TYPE OF ADVERTISING	1957	1970	1972	1973	1974	1975	1976	1977	1978
<b>Total.....</b>	<b>1,611</b>	<b>3,120</b>	<b>3,497</b>	<b>3,668</b>	<b>3,845</b>	<b>4,117</b>	<b>5,352</b>	<b>5,696</b>	<b>6,644</b>
Automotive.....	63	93	98	96	109	93	127	145	151
Classified.....	313	724	881	985	967	982	1,342	1,522	1,885
Financial.....	42	117	115	135	135	131	143	147	202
General.....	326	426	478	471	514	547	731	752	827
Retail.....	866	1,759	1,925	1,980	2,120	2,364	3,005	3,129	3,650

Source: Compiled by Media Records, Inc. Current data in U.S. Bureau of Economic Analysis, *Survey of Current Business*, monthly.

# **No. 1006. NEWSPAPER ADVERTISING—EXPENDITURES FOR NATIONAL ADVERTISING, BY TYPE OF PRODUCT: 1975 TO 1978**

[In millions of dollars. Data are compiled on basis of actual space measurements of bulk of national advertising carried by weekday and Sunday newspapers. Excludes production costs. "N.e.c." means not elsewhere classified.]

TYPE OF PRODUCT	1975	1976	1977	1978	TYPE OF PRODUCT	1975	1976	1977	1978
<b>Total</b> .....	<b>1,142.1</b>	<b>1,405.0</b>	<b>1,568.8</b>	<b>1,671.9</b>	Insurance.....	20.2	23.1	26.2	29.9
Alcoholic beverages.....	72.2	78.5	71.2	72.1	Jewelry, watches <sup>1</sup> .....	3.2	3.5	4.3	3.9
Liquors.....	64.2	70.3	58.9	60.6	Mail order.....	41.9	41.8	42.8	58.0
Amusements.....	6.2	7.6	8.4	8.7	Medical prod., drugs.....	12.9	17.4	22.7	21.6
Automotive.....	175.7	215.2	250.5	269.0	Pets and pet supplies.....	8.4	11.5	9.9	10.0
New passenger cars.....	129.6	163.5	188.6	204.7	Political.....	5.2	22.6	6.5	25.7
Cameras, photo supplies and services.....	10.0	14.1	12.5	15.6	Professional and services.....	5.6	4.9	5.9	7.0
Educational.....	10.0	12.3	15.2	17.6	Public service utilities and communications.....	19.2	23.9	27.3	32.1
Farm and garden.....	18.5	21.2	23.7	22.7	Publishing <sup>2</sup> .....	83.4	104.3	125.1	128.3
Foods.....	131.1	147.8	162.0	153.6	Books.....	21.9	25.8	27.2	26.1
Beverages.....	26.1	31.8	34.8	31.8	Radio and TV.....	48.4	65.2	81.9	86.5
Franchise offers.....	3.0	3.6	4.4	5.0	Real estate.....	8.8	8.8	8.2	7.8
Help wanted.....	10.3	16.4	28.3	39.9	Sporting equipment <sup>3</sup> .....	6.9	8.2	8.1	8.1
Home heat, and equip.....	2.9	3.7	5.2	5.8	Tobacco.....	148.1	200.8	234.2	228.8
Hotels and resorts.....	44.1	49.2	50.9	54.8	Cigarettes.....	145.5	197.6	229.9	224.2
Household furniture and furnishings.....	7.4	8.0	8.2	7.8	Toiletries, toilet goods.....	16.1	19.2	19.4	25.4
Household supplies.....	24.8	29.2	31.0	33.7	Transportation.....	154.7	191.6	202.1	211.9
Household equipment and appliances.....	30.4	38.9	50.3	53.7	Airways.....	97.8	110.4	116.3	124.5
Industrial.....	13.9	18.0	20.5	21.2	Wearing apparel.....	20.2	24.2	30.4	27.8
					All other.....	26.9	35.7	53.0	63.4

<sup>1</sup> Includes silverware.    <sup>2</sup> Includes magazines, newspapers, and other media.

<sup>3</sup> Includes leisure time equipment.

Source: Media Records, Inc., New York, N.Y., *Media Decisions*, June 1979.

# **No. 1007. MAGAZINE ADVERTISING—EXPENDITURES, BY PRODUCT, 1965 TO 1978 AND PERCENT DISTRIBUTION, 1970 TO 1978**

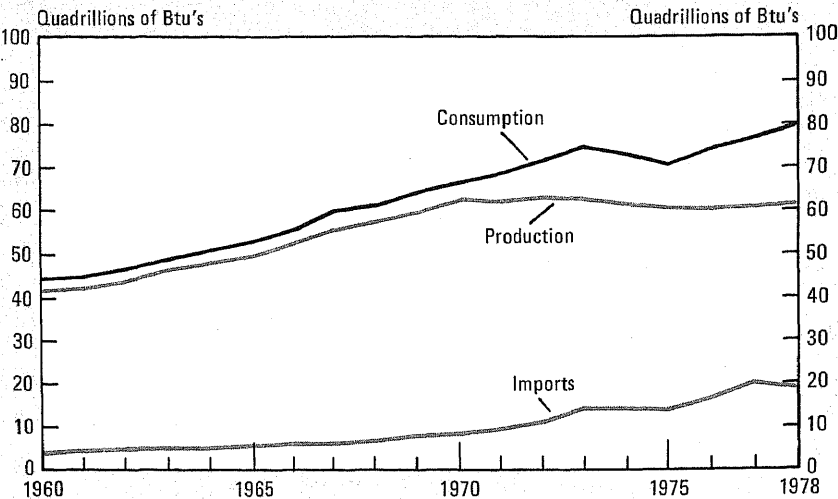
[In millions of dollars. Space cost based on one-time rate; special rates used where applicable. Year-to-year data not strictly comparable, as a few minor publications are added or deleted.]

TYPE OF PRODUCTION	1965	1970	1975	1976	1977	1978	PERCENT DISTRIBUTION		
							1970	1975	1978
<b>Expenditures</b> .....	<b>1,083</b>	<b>1,181</b>	<b>1,336</b>	<b>1,627</b>	<b>1,965</b>	<b>2,374</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Apparel, footwear, and accessories <sup>1</sup> .....	65	51	47	56	70	86	4.3	3.5	3.6
Automotive, incl. accessories and equip. <sup>1</sup> .....	112	95	102	142	177	228	8.0	7.6	9.6
Beer, wine, and liquor.....	70	98	101	111	132	193	8.3	7.6	8.1
Building materials, equip., and fixtures.....	32	21	21	28	36	46	1.8	1.6	1.9
Consumer services <sup>1,2</sup> .....	58	74	102	104	119	147	6.3	7.8	6.2
Drugs and remedies <sup>1</sup> .....	41	38	34	40	61	57	3.2	2.5	2.4
Food and food products.....	113	86	87	113	140	174	7.3	6.5	7.3
Household equipment and supplies <sup>1</sup> .....	39	33	25	37	47	63	2.8	1.9	2.7
Household furnishings <sup>1</sup> .....	36	38	31	47	66	85	3.2	2.3	3.6
Industrial materials <sup>1</sup> .....	47	44	34	47	49	58	3.7	2.6	2.5
Insurance.....	32	26	22	28	39	45	2.2	1.7	1.9
Radios, TV sets, phonographs, musical instruments, and accessories.....	32	38	35	51	58	76	3.2	2.6	3.2
Smoking materials.....	42	65	144	162	194	205	5.5	10.8	8.6
Toiletries and toilet goods <sup>1</sup> .....	77	119	106	125	151	183	10.1	7.9	6.9
Travel, hotels, and resorts.....	46	50	65	69	83	98	4.2	4.9	4.1
All other (incl. retail and direct-mail) <sup>1</sup> .....	243	305	381	461	552	650	25.8	28.5	27.4

<sup>1</sup> Due to classification changes, data not comparable with earlier years beginning 1970 for drugs and remedies, and beginning 1975 for other products.    <sup>2</sup> Includes business services.

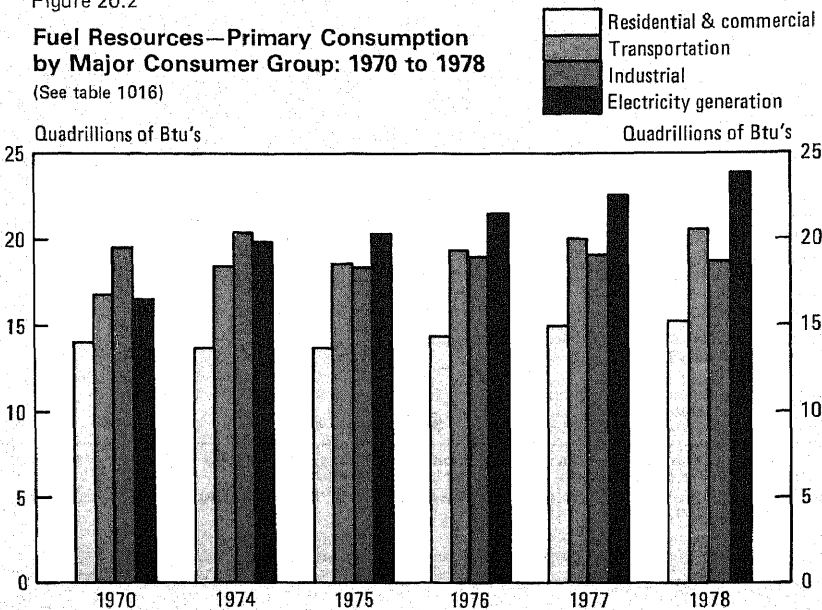
Source: Magazine Publishers Association, Inc., New York, N.Y., from data compiled by Publishers Information Bureau, Inc.

Figure 20.1  
**Energy Production, Consumption  
and Imports: 1960 to 1978**  
(See table 1010)



Source: Chart prepared by U.S. Bureau of the Census.  
Data from U.S. Energy Information Administration.

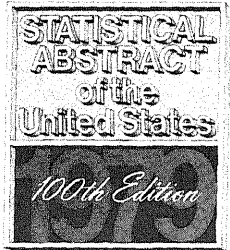
Figure 20.2  
**Fuel Resources—Primary Consumption  
by Major Consumer Group: 1970 to 1978**  
(See table 1016)



Source: Chart prepared by U.S. Bureau of the Census.  
Data from U.S. Energy Information Administration.

## Section 20

# Energy



This section presents statistics on fuel resources, energy production and consumption, electric energy, hydropower, nuclear power, and the electric and gas utility industries. The principal sources are the U.S. Department of Energy's Energy Information Administration (EIA), the Edison Electric Institute, New York, and the American Gas Association, Arlington, Va. The Department of Energy was created in October 1977 and assumed and centralized the responsibilities of all or part of several agencies including the Federal Power Commission (FPC), the U.S. Bureau of Mines, the Federal Energy Administration, and the U.S. Energy Research and Development Administration.

The EIA, in its *Annual Report to Congress*, provides statistics and trend data on energy supply, demand, and prices. Information is included on petroleum and natural gas, coal, electricity, nuclear power, and solar and geothermal energy. Among its annual reports (previously issued by the FPC) are *Statistics of Privately Owned Electric Utilities in the United States*; *Statistics of Publicly Owned Electric Utilities in the United States*; *Gas Turbine Plant Construction Cost and Annual Production Expenses*; *Statistics for Interstate Natural Gas Pipeline Companies*; *Sales by Producers of Natural Gas to Natural Gas Pipeline Companies*; and *Typical Electric Bills*. These various publications contain national and State data on production of electricity, capacity of generating plants, fuels used in energy production, energy sales and consumption, hydroelectric power, construction costs and production expenses of power plants, and depreciation practices. The EIA also issues the annual *Inventory of Power Plants*, the periodic *Energy Data Reports* series, and the *Monthly Energy Review*.

The Edison Electric Institute's monthly bulletin and annual *Statistical Year Book of the Electric Utility Industry for the Year* contain data on the distribution of electric energy by public utilities; information on the electric power supply, expansion of electric generating facilities, and the manufacture of heavy electric power equipment is presented in the annual *Year End Summary of the Electric Power Situation in the United States*. The American Gas Association, in its monthly and quarterly bulletins and its yearbook, *Gas Facts*, presents data on gas utilities, including sales, revenues, customers, prices, and other financial and operating statistics. In addition, *Energy Facts*, prepared by the Library of Congress, has a comprehensive selection of U.S. and foreign energy statistics obtained from primary sources.

Other sources include the Rural Electrification Administration's *Annual Statistical Report—Rural Electric Borrowers* and the National Science Foundation, which publishes data annually on research and development funding in energy.

**Btu conversion factors.**—Various energy sources are converted from original units (e.g. short tons, cubic feet, barrels) to the thermal equivalent using British thermal units (Btu). A Btu is the amount of energy required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near 39.2 degrees F. Factors are calculated annually from the latest annual data available; some are revised as a result. The following list provides conversion factors used in 1978 for production and consumption, in that order, for various fuels: Petroleum 5.800 and 5.526 mil. Btu per barrel; bituminous coal 22.90 and 22.57 mil. Btu per short ton; and anthracite coal 22.50 and 22.00 mil. Btu per short ton. Both production and consumption factors for natural gas were 1,021, while the factors for the production of hydropower, nuclear power, and geothermal power were 10.44, 10.77, and 21.61 thous. Btu per kilowatt-hour, respectively.

**Historical statistics.**—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States*, *Colonial Times* to 1970. See Appendix I.

## No. 1008. TOTAL HORSEPOWER OF ALL PRIME MOVERS: 1940 TO 1978

[In millions. As of January, except as noted. Prior to 1960, excludes Alaska and Hawaii, except as noted. Prime movers are mechanical engines and turbines, and work animals, which originally convert fuels or force (as wind or falling water) into work and power. Electric motors, which obtain their power from prime movers, are excluded to avoid duplication. See also *Historical Statistics, Colonial Times to 1970*, series S 1-14]

ITEM	1940	1950	1955	1960	1965	1970	1973	1974	1975	1976	1977	1978, prel.
Total horsepower.....	2,773	4,868	7,158	11,008	15,096	20,408	24,262	24,516	25,100	25,732	26,469	27,379
Automotive <sup>1 2</sup> .....	2,511	4,404	6,632	10,367	14,306	19,325	23,029	23,224	23,752	24,339	25,025	25,892
Nonautomotive.....	262	464	526	641	790	1,083	1,233	1,292	1,348	1,393	1,444	1,487
Factories <sup>3</sup> .....	22	33	36	42	48	54	58	59	60	61	62	63
Mines <sup>3</sup> .....	7	22	31	35	40	45	46	46	47	47	47	48
Railroads <sup>4</sup> .....	92	111	60	17	44	54	57	61	62	64	62	64
Merchant ships and sailing vessels.....	<sup>5</sup> 9	<sup>5</sup> 23	<sup>5</sup> 24	24	24	22	20	21	22	22	23	25
Farms.....	70	165	212	240	272	290	308	315	318	324	328	<sup>5</sup> 335
Electric central stations <sup>2</sup> .....	54	88	138	217	307	435	562	605	654	692	728	754
Aircraft <sup>4 7</sup> .....	<sup>5</sup> 7	<sup>5</sup> 22	<sup>5</sup> 26	37	55	183	182	185	185	184	194	198

<sup>1</sup> Includes passenger cars, trucks, buses, and motorcycles. <sup>2</sup> As of July 1. <sup>3</sup> Beginning 1965, data are estimates. <sup>4</sup> Beginning 1965, not strictly comparable with earlier years. <sup>5</sup> Includes Alaska and Hawaii. <sup>6</sup> Includes estimates of about 3.0 million hp in work animals and 30,000 in windmills. <sup>7</sup> Includes private planes and commercial airlines.

Source: 1940-1955, The Twentieth Century Fund, New York, N.Y., J. F. Dewhurst and Associates, *America's Needs and Resources, A New Survey*; and John A. Waring, *Transactions of Canadian Sectional Meeting, World Power Conference, 1958*. Beginning 1960, John A. Waring, Washington, D.C., unpublished estimates.

## No. 1009. MINERAL FUEL RESOURCES AND ELECTRICITY—PRODUCTION AND CONSUMPTION, BY MAJOR SOURCE: 1940 TO 1978

[A British thermal unit (Btu) is the quantity of heat required to raise the temperature of 1 pound of water 1°F at or near its point of maximum density. Prior to 1960, excludes Alaska and Hawaii, except data for bituminous coal include Alaska for all years. For Btu conversion factors, see text, p. 599. See also *Historical Statistics, Colonial Times to 1970*, series M 76-92]

YEAR	Total production (quad. Btu)	PERCENT OF PRODUCTION				Total consumption (quad. Btu)	PERCENT OF CONSUMPTION			
		Coal	Crude petroleum <sup>1</sup>	Natural gas <sup>2</sup>	Electricity <sup>3</sup>		Coal	Crude petroleum <sup>1</sup>	Natural gas <sup>2</sup>	Electricity <sup>3</sup>
1940.....	25.1	53.3	31.3	11.9	3.5	23.9	52.4	31.4	11.4	3.8
1950.....	34.5	42.7	33.4	20.0	3.9	33.6	38.1	39.8	18.1	4.0
1955.....	39.1	32.6	37.0	27.0	3.4	39.2	29.1	44.2	23.3	3.5
1960.....	41.8	26.7	35.7	33.8	3.8	44.1	22.8	45.1	28.5	3.6
1961.....	42.3	25.4	36.0	34.7	3.9	44.7	21.9	45.2	29.2	3.7
1962.....	43.9	25.5	35.4	35.0	4.1	46.8	21.5	44.9	29.8	3.8
1963.....	46.2	26.4	34.6	35.2	3.8	48.6	21.7	44.5	30.1	3.6
1964.....	48.0	26.8	33.6	35.7	3.9	50.8	22.0	43.7	30.6	3.7
1965.....	49.7	27.0	33.3	35.6	4.2	53.0	22.3	43.6	30.2	3.9
1966.....	52.5	26.4	33.5	36.2	4.0	55.7	22.2	43.3	30.8	3.7
1967.....	55.4	25.7	33.7	36.3	4.3	57.9	21.0	43.5	31.3	4.1
1968.....	57.1	24.4	33.7	37.6	4.3	61.3	20.5	43.8	31.7	4.0
1969.....	59.4	24.0	32.9	38.5	4.7	64.5	19.6	43.8	32.4	4.3
1970.....	62.5	24.3	32.6	38.6	4.5	66.8	18.9	44.0	32.8	4.3
1971.....	62.0	22.1	32.5	40.2	5.2	68.3	17.6	44.7	32.9	4.7
1972.....	62.8	23.1	31.9	39.5	5.5	71.6	17.3	46.0	31.7	4.9
1973.....	62.5	23.1	31.2	39.7	6.0	74.6	17.8	46.7	30.2	5.2
1974.....	61.2	23.7	30.4	38.7	7.2	72.4	17.7	46.1	29.9	6.3
1975.....	60.1	25.6	29.5	36.6	8.4	70.7	18.2	46.4	28.3	7.2
1976.....	60.1	26.5	28.7	36.3	8.5	74.2	18.5	47.0	27.4	7.1
1977.....	60.4	26.3	28.9	36.3	8.5	76.6	18.5	48.6	26.0	6.9
1978, prel.....	61.0	24.8	30.1	35.3	9.8	78.0	18.1	48.4	25.4	8.1

<sup>1</sup> Production includes lease condensate. Consumption includes domestically produced crude oil, natural gas liquids, and lease condensate, plus imported crude oil and products. <sup>2</sup> Production includes natural gas liquids; consumption excludes natural gas liquids. <sup>3</sup> Comprised of hydropower, nuclear power, and geothermal energy.

Source: 1940, U.S. Bureau of Mines, *Minerals Yearbook*; thereafter, U.S. Energy Information Administration, *Annual Report to Congress*, vol. II.

## No. 1010. ENERGY SUPPLY AND DISPOSITION, BY TYPE OF FUEL: 1960 TO 1978

[In quadrillion British thermal units, except percent. For Btu conversion factors, see text, p. 599]

TYPE OF FUEL	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978, prel.
<b>Total supply</b> <sup>1</sup> .....	<b>45.6</b>	<b>54.9</b>	<b>69.5</b>	<b>73.8</b>	<b>76.7</b>	<b>74.6</b>	<b>73.1</b>	<b>76.4</b>	<b>78.7</b>	<b>80.0</b>
Production.....	41.8	49.7	62.5	62.8	62.5	61.2	60.1	60.1	60.4	61.0
Crude oil <sup>2</sup> .....	14.9	16.5	20.4	20.0	19.5	18.6	17.7	17.3	17.5	18.4
Natural gas liquids.....	1.5	1.9	2.5	2.6	2.6	2.5	2.4	2.3	2.3	2.3
Natural gas <sup>3</sup> .....	12.7	15.8	21.7	22.2	22.2	21.2	19.6	19.5	19.6	19.3
Coal.....	11.1	13.4	15.1	14.5	14.4	14.5	15.2	15.9	15.9	15.1
Nuclear power.....	(Z)	(Z)	.2	.6	.9	1.3	1.9	2.1	2.7	3.0
Hydropower.....	1.6	2.1	2.6	2.9	2.9	3.2	3.2	3.0	2.3	3.0
Geothermal and other.....	-	-	(Z)	(Z)	.1	.1	.1	.1	.1	.1
Imports <sup>4</sup> .....	4.2	5.9	8.4	11.5	14.7	14.4	14.1	16.8	20.1	18.9
Percent of supply.....	9.3	10.7	12.1	15.5	19.2	19.3	19.3	22.1	25.6	23.6
Crude oil.....	2.2	2.7	2.8	4.7	6.9	7.4	8.7	11.2	14.0	13.3
Refined petroleum products <sup>5</sup> .....	1.8	2.8	4.7	5.6	6.6	5.7	4.2	4.4	4.7	4.2
Natural gas.....	.2	.5	.9	1.1	1.1	1.0	1.0	1.0	1.0	1.0
<b>Total disposition</b> .....	<b>45.6</b>	<b>54.9</b>	<b>69.5</b>	<b>73.8</b>	<b>76.7</b>	<b>74.6</b>	<b>73.1</b>	<b>76.4</b>	<b>78.7</b>	<b>80.0</b>
Consumption <sup>4</sup> .....	44.1	53.0	66.8	71.6	74.6	72.4	70.7	74.2	76.6	78.0
Refined petroleum products.....	19.9	23.3	29.5	35.0	34.8	33.1	32.7	34.8	37.2	37.8
Natural gas <sup>3</sup> .....	12.4	15.8	21.8	22.7	22.5	21.7	20.0	20.4	19.9	19.8
Coal.....	10.1	11.9	12.7	12.5	13.3	12.9	12.8	13.7	14.1	14.1
Nuclear power.....	(Z)	(Z)	.2	.6	.9	1.3	1.9	2.1	2.7	3.0
Hydropower <sup>6</sup> .....	1.7	2.1	2.7	2.9	3.0	3.3	3.2	3.1	2.5	3.2
Geothermal and other.....	-	-	(Z)	(Z)	.1	.1	.1	.1	.1	.1
Exports.....	1.5	1.9	2.7	2.1	2.1	2.2	2.4	2.2	2.1	2.0
Coal.....	1.0	1.4	1.9	1.5	1.5	1.6	1.8	1.6	1.5	1.1

- Represents zero. Z Less than 50 trillion. <sup>1</sup> Includes adjustments for stock changes, losses, gains, and miscellaneous changes, not shown separately. <sup>2</sup> Includes lease condensate. <sup>3</sup> Dry marketed gas.

<sup>4</sup> Includes other types, not shown separately.

<sup>5</sup> Includes imports of unfinished oils and natural gas liquids.

<sup>6</sup> Includes industrial generation and net electricity imports.

Source: U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2.

## No. 1011. ENERGY PRODUCTION AND CONSUMPTION—ANNUAL GROWTH RATES, BY TYPE OF FUEL: 1950 TO 1978

[In percent. Rates represent average annual compounded changes; for explanation, see Guide to Tabular Presentation. Minus sign (-) denotes decrease]

TYPE OF FUEL	1950-1960	1960-1970	1970-1978	1970-1972	1972-1973	1973-1974	1974-1975	1975-1976	1976-1977	1977-1978
<b>Total production</b> .....	<b>1.9</b>	<b>4.1</b>	<b>-.3</b>	<b>.2</b>	<b>-.6</b>	<b>-2.0</b>	<b>-1.9</b>	<b>.1</b>	<b>.5</b>	<b>1.0</b>
Crude oil <sup>1</sup> .....	2.7	3.2	-1.3	-.9	-2.7	-4.7	-4.5	-2.7	1.1	5.2
Natural gas liquids.....	5.9	5.6	-1.3	1.8	-1.2	-3.9	-4.1	-1.7	-	-3.0
Natural gas <sup>2</sup> .....	7.4	5.5	-1.5	1.2	-.1	-4.4	-7.4	-.8	.5	-1.5
Coal.....	-2.7	3.1	.1	-1.9	-.7	.6	5.0	4.3	.3	-5.0
Nuclear power.....	(X)	37.4	37.0	55.5	56.9	39.6	49.6	11.1	28.0	10.4
Hydropower.....	1.3	5.1	1.5	4.3	-	10.8	-.6	-5.4	-21.5	26.9
Geothermal and other.....	(X)	(X)	17.0	41.4	25.0	20.0	16.7	14.3	-	-12.5
<b>Total consumption</b> .....	<b>2.8</b>	<b>4.3</b>	<b>2.0</b>	<b>3.5</b>	<b>4.2</b>	<b>-3.0</b>	<b>-2.3</b>	<b>4.9</b>	<b>3.2</b>	<b>1.9</b>
Refined petroleum products.....	4.1	4.0	3.1	5.7	5.7	-5.1	-1.0	6.4	6.8	1.6
Natural gas <sup>2</sup> .....	7.6	5.8	-1.2	2.0	-.8	-3.5	-3.2	2.0	-2.1	-.6
Coal.....	-2.4	2.3	1.4	-.8	6.8	-3.2	-.5	7.1	3.0	-.4
Nuclear power.....	(X)	37.4	37.0	55.5	56.9	39.6	49.6	11.1	28.0	10.4
Hydropower <sup>3</sup> .....	1.4	4.9	2.2	5.3	2.4	10.0	-2.7	-4.7	-17.9	25.0
Geothermal and other.....	(X)	(X)	17.0	41.4	25.0	20.0	16.7	14.3	-	-12.5
<b>GNP</b> <sup>4</sup> .....	<b>3.3</b>	<b>3.9</b>	<b>3.2</b>	<b>4.4</b>	<b>5.5</b>	<b>-1.4</b>	<b>-1.3</b>	<b>5.7</b>	<b>4.9</b>	<b>4.0</b>

X Not applicable. - Represents zero. <sup>1</sup> Includes lease condensate. <sup>2</sup> Dry marketed gas.

<sup>3</sup> Includes industrial generation and net electricity imports.

<sup>4</sup> Gross national product in constant (1972) dollars; see table 715.

Source: U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2.

## No. 1012. ENERGY CONSUMPTION—TOTAL AND PER CAPITA: 1940 TO 1978

[Btu=British thermal units. See text, p. 599]

YEAR	ALL ENERGY <sup>1</sup>		PETROLEUM <sup>3</sup>		NATURAL GAS <sup>4</sup>		COAL <sup>5</sup>		CONSUMPTION PER DOLLAR GNP <sup>6</sup>	
	Total (quad. Btu)	Per capita <sup>2</sup> (mil. Btu)	Total (quad. Btu)	Per capita <sup>2</sup> (mil. Btu)	Total (quad. Btu)	Per capita <sup>2</sup> (mil. Btu)	Total (quad. Btu)	Per capita <sup>2</sup> (mil. Btu)	All energy (1,000 Btu)	Petroleum (1,000 Btu)
1940-----	23.9	180	7.5	57	2.7	21	12.5	95	69.6	21.8
1945-----	31.5	236	9.6	72	4.0	30	16.0	120	56.4	17.2
1950-----	33.9	223	13.5	89	6.0	39	12.9	85	63.6	25.3
1955-----	39.7	240	17.5	106	9.0	55	11.5	70	60.6	26.8
1960-----	44.1	245	19.9	111	12.4	69	10.1	56	59.8	27.0
1965-----	53.0	274	23.3	120	15.8	81	11.9	61	57.2	25.1
1970-----	66.8	328	29.5	145	21.8	107	12.7	62	62.1	27.5
1971-----	68.3	331	30.6	148	22.5	109	12.0	58	61.7	27.6
1972-----	71.6	344	33.0	158	22.7	109	12.5	60	61.2	28.1
1973-----	74.6	355	34.8	166	22.5	107	13.3	63	60.4	28.2
1974-----	72.4	342	33.1	156	21.7	103	12.9	61	59.4	27.1
1975-----	70.7	332	32.7	154	20.0	94	12.8	60	58.8	27.2
1976-----	74.2	345	34.8	162	20.4	95	13.7	64	58.3	27.4
1977-----	76.6	354	37.2	172	19.9	92	14.1	65	57.4	27.9
1978, prel-----	78.0	358	37.8	173	19.8	91	14.1	65	56.3	27.3

<sup>1</sup> Includes hydropower, nuclear power, geothermal and other energy, not shown separately. <sup>2</sup> Based on estimated resident population as of July 1. <sup>3</sup> Includes petroleum products, natural gas plant liquids, and crude oil burned as fuel. <sup>4</sup> Dry gas only. <sup>5</sup> Includes bituminous coal, lignite, anthracite coal, and net imports of coke. <sup>6</sup> Gross national product in constant (1972) dollars. See table 715.

Source: 1940-1945. U.S. Library of Congress, *Energy Facts*, November 1973; thereafter, U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2.

## No. 1013. ENERGY CONSUMPTION, BY SECTOR AND PRIMARY SOURCE: 1975 TO 1978

[In trillions of Btu. For definition of Btu, see text, p. 599]

SECTOR	Total	Coal <sup>1</sup>	Natural gas, dry	Petroleum <sup>2</sup>	Hydroelectric <sup>3</sup>	Nuclear power	Geothermal	Electricity distributed <sup>4</sup>	Electric energy loss <sup>5</sup>
<b>1975</b>									
Final consuming sectors-----	70,706	4,049	16,708	29,640	30	-	-	5,903	14,377
Residential and commercial-----	25,981	248	7,581	5,839	-	-	-	3,584	8,729
Industrial-----	26,207	3,800	8,532	5,929	30	-	-	2,304	5,613
Transportation-----	18,518	1	595	17,872	-	-	-	15	35
Electric utilities-----	20,280	8,788	3,241	3,092	3,187	1,900	72	(X)	(X)
<b>1976</b>									
Final consuming sectors-----	74,163	4,012	17,193	31,420	33	-	-	6,265	15,240
Residential and commercial-----	27,177	239	7,860	6,286	-	-	-	3,725	9,060
Industrial-----	27,592	3,773	8,708	6,350	33	-	-	2,525	6,144
Transportation-----	19,394	559	18,784	-	-	-	-	15	36
Electric utilities-----	21,505	9,720	3,153	3,407	3,032	2,111	81	(X)	(X)
<b>1977</b>									
Final consuming sectors-----	76,562	3,889	16,646	33,356	37	-	-	6,583	16,052
Residential and commercial-----	28,385	256	7,462	7,144	-	-	-	3,934	9,590
Industrial-----	28,108	3,633	8,641	6,736	37	-	-	2,635	6,427
Transportation-----	20,068	543	19,476	-	-	-	-	14	35
Electric utilities-----	22,636	10,263	3,285	3,821	2,482	2,702	82	(X)	(X)
<b>1978</b>									
Final consuming sectors-----	78,014	3,849	16,490	33,881	35	-	-	6,821	16,939
Residential and commercial-----	29,296	277	7,678	7,145	-	-	-	4,077	10,120
Industrial-----	28,129	3,572	8,274	6,737	35	-	-	2,729	6,782
Transportation-----	20,589	-	538	19,999	-	-	-	15	37
Electric utilities-----	23,725	10,371	3,293	3,905	3,111	2,977	68	(X)	(X)

- Represents zero. X Not applicable. <sup>1</sup> Represents anthracite, bituminous, lignite, and net coke net imports. <sup>2</sup> Includes petroleum products, still gas, liquefied refinery gas, and natural gas liquids. <sup>3</sup> Includes net imports of electricity.

<sup>4</sup> Electrical energy used by railroads and for street and highway lighting is included in transportation sector.

<sup>5</sup> Losses allocated by final end-use sector in proportion to their direct kilowatt-hour usage.

Source: U.S. Energy Information Administration, *Monthly Energy Review*.



## NO. 1014. WORLD ENERGY CONSUMPTION, BY REGION AND ENERGY SOURCE: 1960 TO 1977

[In tons of coal equivalent. Metric ton = 1.1023 short tons. See text, p. 894, for general comments about the data.]

REGION AND ENERGY SOURCE	CONSUMPTION (mil. metric tons)								PERCENT DISTRIBUTION		
	1960	1965	1970	1973	1974	1975	1976	1977	1960	1970	1977
<b>World total</b> .....	<b>4,246</b>	<b>5,220</b>	<b>6,718</b>	<b>7,734</b>	<b>7,779</b>	<b>7,808</b>	<b>8,280</b>	<b>8,541</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
United States.....	1,475	1,774	2,247	2,481	2,407	2,322	2,473	2,510	34.7	33.4	29.4
Western Europe.....	831	1,057	1,351	1,530	1,500	1,457	1,553	1,541	19.6	20.1	18.0
Japan.....	109	179	344	426	422	404	426	433	2.6	5.1	5.1
Centrally planned economies.....	1,354	1,564	1,909	2,234	2,330	2,459	2,576	2,728	31.9	28.4	31.9
Rest of world.....	476	646	869	1,063	1,120	1,165	1,252	1,329	11.2	13.0	15.6
<b>Energy source:</b>											
Solid fuels.....	2,206	2,255	2,353	2,452	2,489	2,516	2,646	2,744	51.9	35.0	32.1
Liquid fuels.....	1,362	1,967	2,912	3,578	3,535	3,524	3,770	3,896	32.1	43.4	45.6
Natural gas.....	593	882	1,293	1,517	1,545	1,545	1,633	1,651	14.0	19.3	19.3
Hydropower and geo-thermal.....	85	113	145	162	178	180	181	187	2.0	2.2	2.2
Nuclear.....	(Z)	3	10	24	31	43	50	63	(Z)	.1	.8

Z Less than 500,000 tons or .05 percent.

Source: Statistical Office of the United Nations, New York, N.Y., *World Energy Supplies*, Statistical Papers, series J, vol. 21; and unpublished data. (Copyright.)

## NO. 1015. CRUDE OIL, NATURAL GAS, AND COAL—WORLD PRODUCTION, BY REGION: 1960 TO 1977

FUEL AND REGION	PRODUCTION								PERCENT DISTRIBUTION			
	1960	1965	1970	1973	1974	1975	1976	1977	1960	1970	1976	1977
<b>CRUDE OIL (mil. bbl.)</b>												
<b>World</b> .....	<b>7,674</b>	<b>11,063</b>	<b>16,711</b>	<b>20,368</b>	<b>20,539</b>	<b>19,502</b>	<b>21,192</b>	<b>21,900</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
United States.....	2,575	2,849	3,517	3,361	3,203	3,057	2,976	3,009	33.6	21.0	14.0	13.8
Other W. Hemisphere.....	1,555	1,979	2,377	2,542	2,405	2,123	2,114	2,129	20.3	14.2	10.0	9.7
Western Europe.....	99	131	116	114	116	200	312	489	1.3	.7	1.5	2.2
Africa.....	105	812	2,207	2,161	1,990	1,826	2,135	2,276	1.4	13.2	10.1	10.4
Middle East.....	1,923	3,054	5,096	7,745	7,987	7,161	8,116	8,187	25.1	30.5	35.3	37.4
Far East and Oceania.....	202	246	503	816	816	806	923	1,017	2.6	3.0	4.3	4.6
Sino-Soviet bloc <sup>1</sup> .....	1,215	1,993	2,890	3,629	4,022	4,329	4,616	4,793	15.8	17.2	21.8	21.9
<b>NATURAL GAS (bil. cu. ft.)</b>												
<b>World</b> .....	<b>16,917</b>	<b>24,537</b>	<b>37,664</b>	<b>46,144</b>	<b>47,179</b>	<b>47,364</b>	<b>49,497</b>	<b>51,394</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
United States.....	12,771	16,040	21,921	22,648	21,601	20,109	19,952	20,025	75.5	58.2	40.3	39.0
Other W. Hemisphere.....	1,299	2,268	3,554	4,735	4,712	4,778	4,863	4,999	7.7	9.4	9.8	9.7
Western Europe.....	432	671	2,751	5,148	5,837	6,033	6,349	6,527	2.6	7.3	12.8	12.7
Africa.....	6	70	122	586	594	757	891	959	(Z)	.3	1.8	1.9
Middle East.....	57	171	460	1,277	1,423	1,359	1,407	1,463	.3	1.2	2.8	2.8
Far East and Oceania.....	158	166	525	792	895	985	1,165	1,366	.9	1.4	2.4	2.7
Sino-Soviet bloc.....	2,194	5,152	8,331	10,958	12,117	13,342	14,870	16,054	13.0	22.1	30.0	31.2
<b>COAL (mil. sh. tons)</b>												
<b>World</b> .....	<b>2,899</b>	<b>3,079</b>	<b>3,317</b>	<b>3,404</b>	<b>3,459</b>	<b>3,606</b>	<b>3,716</b>	<b>3,783</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
United States.....	434	527	613	599	607	655	685	694	15.0	18.5	18.5	18.4
Other W. Hemisphere.....	21	22	28	35	35	42	43	48	.7	.8	1.2	1.3
Western Europe.....	618	601	500	466	439	497	467	482	21.3	15.1	12.6	12.7
Africa.....	48	59	66	75	77	82	91	101	1.7	2.0	2.4	2.7
Middle East.....	11	10	10	12	19	14	12	15	.4	.3	.3	.3
Far East and Oceania.....	189	237	240	233	250	278	295	298	6.5	7.2	7.9	7.9
Sino-Soviet bloc.....	1,578	1,622	1,861	1,984	2,032	2,038	2,123	2,145	54.4	56.1	57.1	56.7

Z Less than .05 percent. <sup>1</sup> Includes Cuba.Source: 1960-1975, U.S. Dept. of Interior, *Energy Perspectives 2*, June 1976, and unpublished data; thereafter, U.S. Energy Information Administration, *International Petroleum Annual*, *World Natural Gas*, annual, and *Coal—Bituminous and Lignite*, annual.

No. 1016. PRIMARY ENERGY CONSUMPTION BY CONSUMING SECTOR: 1970 TO 1978

[For definition of Btu, text, p. 599]

SECTOR	1970	1971	1972	1973	1974	1975	1976	1977	1978, est.
CONSUMPTION (quadrillion Btu)									
Total.....	66.8	68.3	71.6	74.6	72.4	70.7	74.2	76.6	78.0
Residential and commercial.....	14.0	14.3	14.6	14.0	13.7	13.7	14.4	14.9	15.1
Industrial and miscellaneous.....	19.5	19.2	19.9	22.0	20.4	18.3	18.9	19.0	18.6
Transportation.....	16.7	17.4	18.3	18.9	18.4	18.5	19.3	20.0	20.5
Electricity generation.....	16.5	17.4	18.7	19.7	19.9	20.3	21.5	22.6	23.8
PERCENT OF TOTAL									
Residential and commercial.....	21	21	20	19	19	19	19	19	19
Industrial and miscellaneous.....	29	28	28	29	28	26	25	25	24
Transportation.....	25	25	26	25	25	26	26	26	26
Electricity generation.....	25	25	26	26	28	29	29	30	31

Source: U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2.

No. 1017. FOSSIL FUEL PRICES IN CURRENT AND CONSTANT (1972) DOLLARS: 1960 TO 1978

[In cents per million British thermal units (Btu), except as indicated. All fuel prices taken as close to the point of production as possible. See text, p. 599, for explanation of Btu conversions from mineral fuels. Minus sign (—) denotes decrease]

FUEL	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978, prel.	PERCENT CHANGE--			
											1960- 1970	1970- 1973	1973- 1978	
CURRENT DOLLARS														
Composite <sup>1</sup> -----	30.0	28.5	32.5	36.8	43.2	72.4	86.4	94.9	107.3	114.9	8.3	32.9	166.0	
Crude oil-----	49.7	47.6	52.1	58.5	67.1	118.5	132.2	141.2	147.8	154.5	4.8	28.8	130.3	
Natural gas liquids-----	55.2	48.1	50.7	56.0	72.4	124.9	116.7	141.0	173.9	(NA)	-8.2	42.8	(NA)	
Natural gas (dry)-----	13.5	15.1	16.6	18.1	21.2	29.7	43.6	56.9	77.4	90.0	23.0	27.7	324.5	
Bituminous coal <sup>2</sup> -----	18.3	17.5	25.5	31.9	35.5	66.4	82.9	83.9	89.5	97.8	39.3	39.2	175.5	
Anthracite coal-----	33.0	35.3	47.1	53.0	50.2	98.4	137.9	147.5	154.5	162.2	42.7	6.6	223.1	
CONSTANT (1972) DOLLARS														
Composite <sup>1</sup> -----	43.7	38.3	35.6	36.8	40.0	62.4	68.0	70.9	75.8	75.5	-22.7	12.4	88.7	
Crude oil-----	72.3	64.0	57.0	58.5	63.4	102.1	104.0	105.6	104.4	101.6	-21.2	11.2	60.3	
Natural gas liquids-----	80.4	65.0	55.4	56.0	68.4	107.7	91.8	105.4	122.8	(NA)	-31.3	23.5	(NA)	
Natural gas (dry)-----	19.7	20.3	18.2	18.1	20.0	25.6	34.3	42.5	54.7	59.2	-27.6	9.9	196.0	
Bituminous coal <sup>2</sup> -----	26.6	23.5	27.9	31.9	33.6	57.2	65.2	62.7	63.2	64.3	4.9	20.4	91.4	
Anthracite coal-----	48.0	47.4	51.6	53.0	47.5	84.8	108.5	110.3	109.1	106.6	7.5	-8.0	124.4	
GNP price deflators 1972 = 100--	68.7	74.3	91.4	100.0	105.8	116.0	127.2	133.8	141.6	152.1	33.0	15.8	43.8	

NA Not available. <sup>1</sup> Weighted by relative importance of individual fuels in total mineral fuels production. <sup>2</sup> Includes lignite.

Source: U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2.

No. 1018. INDUSTRIAL RESEARCH AND DEVELOPMENT EXPENDITURES FOR ENERGY, BY TYPE: 1976 TO 1978

[In millions of dollars. 1978 estimated. Covers research, applied research, and development. See also table 1050]

TYPE OF ENERGY	1976	1977	1978	TYPE OF ENERGY	1976	1977	1978
Total.....	1,606	1,930	2,146	Fossil fuels.....	583	695	803
Percent of total industry R & D.....	6.0	6.5	6.5	Oil.....	368	420	443
Nuclear.....	799	906	943	Coal.....	127	177	246
Fission.....	741	823	867	Synthetic fuel.....	74	116	178
Fusion.....	58	83	76	Gas.....	68	78	84
Geothermal.....	13	24	26	Shale.....	15	15	23
Solar.....	43	65	70	Other.....	5	5	7
Conservation and utilization.....	83	124	170	Other.....	85	116	134

Source: U.S. National Science Foundation, *Research and Development in Industry*, annual.

### NO. 1019. FEDERAL RESEARCH AND DEVELOPMENT OBLIGATIONS FOR ENERGY DEVELOPMENT AND CONVERSION, BY FUNCTION: 1970 TO 1979

[In millions of dollars, except percent. Through 1976, for years ending June 30; thereafter, years ending Sept. 30. Excludes research and development plant. See table 1048 for Federal obligations for R and D. For explanation of average annual percent change, see Guide to Tabular Presentation]

FUNCTION	1970	1972	1973	1974	1975	1976	1977	1978, est.	1979, est.
Total.....	424.8	475.1	534.7	664.8	1,186.1	1,438.8	2,301.5	2,862.5	2,827.1
Annual percent change <sup>1</sup> .....	-2.4	5.8	12.5	24.0	78.4	21.3	60.0	24.4	-1.2
Nuclear.....	295.9	334.7	373.1	430.3	594.5	715.9	1,086.6	1,244.7	1,080.4
Percent of total.....	70.0	70.0	70.0	65.0	50.0	50.0	47.0	43.0	38.0
Magnetic fusion.....	27.7	31.0	37.0	53.0	97.9	130.2	195.2	203.9	225.0
Breeder reactor.....	194.3	234.0	256.7	289.6	399.0	347.9	479.5	455.2	279.7
Nuclear research and applications.....	27.9	30.7	35.0	45.4	33.6	48.8	136.1	177.1	210.3
Fuel cycle R and D.....	27.9	30.7	35.0	45.4	1.9	2.1	3.0	3.5	3.0
Uranium enrichment activities.....	27.9	30.7	35.0	45.4	4.4	1.8	4.3	6.5	7.9
Uranium resource assessment.....	26.0	26.4	33.9	41.7	60.4	78.2	94.0	111.1	134.2
Reactor safety research.....	20.1	12.6	10.6	.6	1.3	3.0	35.2	36.5	16.3
Other.....	20.1	12.6	10.6	.6	1.3	3.0	35.2	36.5	16.3
Fossil.....	21.8	39.1	50.3	89.2	314.0	368.6	557.4	636.5	623.7
Coal R and D.....	16.7	32.9	43.8	78.0	276.2	330.3	490.7	526.3	519.9
Petroleum development.....	5.1	6.2	6.5	11.2	37.9	38.4	48.4	77.6	78.2
Gas development.....	5.1	6.2	6.5	11.2	37.9	38.4	18.3	32.6	25.7
Solar and geothermal.....	-	2.4	5.2	19.1	82.8	126.6	306.7	449.7	463.9
Fuels from biomass.....	-	-	-	-	-	4.6	9.5	20.4	26.4
Solar demon.: heating and cooling.....	-	1.7	4.0	12.1	54.7	14.8	62.0	64.4	36.0
Solar energy development.....	-	-	-	-	-	76.5	184.3	260.3	274.8
Geothermal energy development.....	-	.7	1.1	7.1	28.0	30.7	50.8	104.6	126.7
Conservation.....	.5	5.5	6.3	17.9	52.0	70.5	171.2	306.1	376.5
Other.....	106.6	93.4	99.9	108.4	142.9	157.2	179.6	225.5	282.6

- Represents zero. <sup>1</sup> From prior year shown. 1970, change from 1969.

Source: U.S. National Science Foundation, *An Analysis of Federal R & D Funding by Function, 1969-1979*.

### NO. 1020. U.S. FOREIGN TRADE IN SELECTED MINERAL FUELS: 1960 TO 1978

[Btu=British thermal units. See text, p. 599. Minus sign (-) denotes an excess of imports over exports. See also *Historical Statistics, Colonial Times to 1970*, series M 100, 101, 127, 128, 140, 141, 178, and 181]

YEAR	NATURAL GAS						CRUDE OIL					
	Imports		Exports		Net trade		Imports		Exports		Net trade	
	Bil. cu. ft.	Tril. Btu	Bil. cu. ft.	Tril. Btu	Bil. cu. ft.	Tril. Btu	Mill. bbl.	Tril. Btu	Mill. bbl.	Tril. Btu	Mill. bbl.	Tril. Btu
1960.....	155.6	161	11.3	12	-144.3	-149	372	2,116	3	18	-369	-2,098
1965.....	456.4	471	26.1	27	-430.3	-444	452	2,528	1	6	-451	-2,522
1970.....	820.8	846	68.8	72	-751.0	-774	483	2,716	5	28	-478	-2,688
1971.....	934.5	964	80.2	83	-854.3	-881	613	3,431	1	3	-612	-3,428
1972.....	1,019.5	1,051	78.2	80	-941.5	-971	811	4,541	(2)	1	-811	-4,540
1973.....	1,032.9	1,085	77.2	80	-955.7	-985	1,184	6,867	1	6	-1,183	-6,861
1974.....	959.0	982	76.8	79	-882.2	-903	1,269	7,360	1	6	-1,268	-7,354
1975.....	969.0	973	72.7	74	-896.3	-899	1,498	8,688	2	12	-1,496	-8,676
1976.....	963.8	983	64.7	66	-899.1	-917	1,935	11,223	3	17	-1,932	-11,206
1977.....	1,011.0	1,040	56.0	57	-955.0	-983	2,414	14,030	18	104	-2,396	-13,926
1978.....	948.0	970	55.0	56	-893.0	-914	2,265	13,250	45	260	-2,220	-12,990
	COAL						PETROLEUM PRODUCTS					
	Imports		Exports		Net trade		Imports		Exports		Net trade	
	1,000 sh. tons	Tril. Btu	1,000 sh. tons	Tril. Btu	1,000 sh. tons	Tril. Btu	Mill. bbl.	Tril. Btu	Mill. bbl.	Tril. Btu	Mill. bbl.	Tril. Btu
1960.....	262	7	37,981	1,044	37,719	1,037	293	1,839	71	393	-222	-1,446
1965.....	184	5	52,162	1,418	51,978	1,413	449	2,821	67	372	-382	-2,449
1970.....	36	1	72,411	1,991	72,375	1,990	765	4,672	90	519	-675	-4,153
1971.....	111	3	58,022	1,569	57,911	1,566	819	4,974	81	466	-738	-4,508
1972.....	47	1	57,151	1,546	57,104	1,545	924	5,571	81	463	-843	-5,108
1973.....	127	3	53,683	1,449	53,549	1,446	1,099	6,625	84	483	-1,015	-6,142
1974.....	2,080	48	60,661	1,638	58,581	1,590	962	5,747	79	476	-888	-5,223
1975.....	940	22	66,309	1,790	65,369	1,768	712	4,229	74	446	-638	-3,851
1976.....	1,203	27	60,021	1,621	58,818	1,594	741	4,430	79	448	-662	-3,982
1977.....	1,803	45	54,312	1,466	52,509	1,421	800	4,730	70	407	-730	-4,323
1978.....	2,953	74	40,691	1,100	37,738	1,026	723	4,230	75	435	-648	-3,795

Z Less than 500,000. <sup>1</sup> Includes strategic petroleum reserve imports.

Source: 1960-1972, U.S. Library of Congress, *Energy Facts*, November 1973; thereafter, U.S. Energy Information Administration, *Annual Report to Congress*, vol. II.

## No. 1021. CRUDE OIL AND REFINED PRODUCTS SUMMARY: 1973 TO 1979

[Barrels of 42 gallons]

YEAR AND MONTH	CRUDE OIL (1,000 bbl. per day)					REFINED OIL PRODUCTS (1,000 bbl. per day)			Total oil im-ports <sup>1</sup> (1,000 bbl. per day)	CRUDE OIL STOCKS <sup>2</sup> (1,000 bbl.)	
	In-put to refin-eries	Do-mes-tic pro-duc-tion	Imports		Ex-ports	Do-mes-tic de-mand	Im-ports	Ex-ports		Total	Strat-egic re-serve
			Total	Strat-egic re-serve							
1973, avg.....	12,431	9,208	3,244	(X)	2	17,308	3,012	229	(X)	242,478	(X)
1974, avg.....	12,133	8,774	3,477	(X)	3	16,653	2,635	218	(X)	265,020	(X)
1975, avg.....	12,442	8,375	4,105	(X)	6	16,322	1,951	204	(X)	271,354	(X)
1976, avg.....	13,416	8,132	5,287	(X)	8	17,461	2,026	215	(X)	285,471	(X)
1977, avg.....	14,602	8,245	6,594	80	50	18,431	2,193	193	8,807	339,857	(X)
1st qtr.....	14,376	8,028	6,546	(X)	35	19,703	2,881	176	9,428	299,533	(X)
2d qtr.....	14,545	8,107	6,901	(X)	39	17,532	1,842	207	8,744	333,740	(X)
3d qtr.....	14,816	8,297	6,631	(X)	60	17,765	2,114	199	8,745	334,133	(X)
4th qtr.....	14,679	8,546	6,302	82	66	18,771	1,958	255	8,341	339,857	7,826
1978, avg.....	14,732	8,701	6,071	161	158	18,822	1,997	204	8,228	309,915	66,860
1st qtr.....	14,080	8,509	5,835	118	55	20,064	2,242	189	8,195	345,333	18,437
2d qtr.....	14,513	8,777	5,670	129	137	18,039	1,829	213	7,628	333,247	30,140
3d qtr.....	15,052	8,774	6,291	188	188	18,068	1,927	216	8,406	321,213	47,090
4th qtr.....	15,253	8,736	6,474	209	247	19,168	1,996	198	8,679	309,915	66,860
1979, 1st qtr.....	14,280	8,513	6,330	168	334	20,324	2,219	215	8,717	317,432	82,501
2d qtr.....	14,607	8,590	5,974	76	(NA)	17,914	1,615	(NA)	7,665	325,247	88,567

NA Not available. X Not applicable. <sup>1</sup> Crude oil (including Strategic Petroleum imports) plus refined products. <sup>2</sup> End of year or quarter.

Sources: U.S. Energy Information Administration, *Monthly Energy Review*, July 1979.

## No. 1022. CRUDE OIL IMPORTS INTO THE U.S., BY COUNTRY OF ORIGIN: 1970 TO 1978

[In millions of 42-gallon barrels]

COUNTRY	1970	1972	1973	1974	1975	1976	1977	1978	PERCENT DISTRIBUTION						
									1970	1973	1975	1976	1977	1978	
<b>Total.....</b>	<b>483</b>	<b>811</b>	<b>1,184</b>	<b>1,269</b>	<b>1,498</b>	<b>1,935</b>	<b>2,414</b>	<b>2,275</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	
Canada.....	245	312	365	289	219	136	102	90	50.7	30.8	14.6	7.0	4.2	4.0	
Mexico.....	-	-	(z)	1	26	32	65	115	-	(z)	1.7	1.7	2.7	5.0	
Norway.....	-	-	-	(z)	5	13	18	38	-	-	.3	.7	.8	1.7	
Trinidad.....	(z)	9	22	23	42	38	49	52	(z)	1.9	2.8	2.0	2.0	2.3	
United Kingdom.....	-	-	-	-	-	5	36	61	-	-	-	.2	1.4	2.7	
<b>OPEC.....</b>	<b>222</b>	<b>475</b>	<b>767</b>	<b>926</b>	<b>1,171</b>	<b>1,663</b>	<b>2,058</b>	<b>1,869</b>	<b>46.0</b>	<b>64.8</b>	<b>78.2</b>	<b>85.9</b>	<b>85.3</b>	<b>82.2</b>	
Algeria.....	2	32	44	66	96	149	198	225	.4	3.7	6.4	7.7	8.2	9.9	
Ecuador.....	-	5	17	15	21	19	20	14	-	1.4	1.4	1.0	.8	.6	
Gabon.....	-	-	-	9	10	10	13	14	-	-	.6	.5	.5	.6	
Indonesia.....	26	60	73	103	138	196	185	152	5.4	6.2	9.2	10.1	7.7	8.0	
Iran.....	12	50	79	169	102	109	193	189	2.5	6.7	6.8	5.6	8.0	8.7	
Iraq.....	-	1	2	-	(z)	10	27	22	-	.1	(z)	.5	1.1	1.0	
Kuwait.....	12	13	15	2	1	(z)	15	17	2.5	1.3	.1	(z)	.6	.7	
Libya.....	17	40	49	1	81	162	257	230	3.5	4.1	5.4	8.4	10.6	10.1	
Nigeria.....	17	89	164	254	272	371	412	327	3.5	13.9	18.2	19.2	17.1	14.4	
Qatar.....	-	1	3	6	7	9	24	23	-	.1	.5	.5	1.0	1.0	
Saudi Arabia.....	15	64	169	160	256	447	501	414	3.1	14.3	17.1	23.1	20.8	18.2	
Un. Arab Emir's <sup>1</sup> .....	23	27	26	25	43	93	122	138	4.8	2.2	2.9	4.8	5.1	6.1	
Venezuela.....	98	93	126	116	144	88	91	64	20.3	10.6	9.6	4.5	3.8	2.8	
Other.....	16	15	30	30	35	48	86	50	3.3	2.5	2.3	2.5	3.6	2.2	

- Represents zero. Z Less than 500,000 or less than .05 percent. <sup>1</sup> Abu Dhabi prior to 1972.

Source: 1970-1976, U.S. Bureau of Mines, *Minerals Yearbook and Mineral Industry Surveys*; thereafter, U.S. Energy Information Administration, *Energy Data Report, Petroleum Statement*, annual.

# **NO. 1023. PETROLEUM AND COAL PRODUCTS—SALES, NET PROFIT, AND PROFIT PER DOLLAR OF SALES: 1960 TO 1978**

[Profit rates are averages of quarterly figures at annual rates]

ITEM	1960	1965	1970	1972	1973	1974 <sup>1</sup>	1974 <sup>2</sup>	1975 <sup>2</sup>	1976 <sup>3</sup>	1977 <sup>2</sup>	1978 <sup>2</sup>
Sales.....bil. dol.	30.0	41.4	64.1	78.1	97.8	180.4	113.5	121.8	141.3	162.3	177.7
Net profits before taxes <sup>3</sup> .....bil. dol.	3.3	5.3	7.0	6.5	9.5	15.6	17.7	13.3	16.9	17.8	19.1
Net profits after taxes.....bil. dol.	2.9	4.5	5.9	5.2	7.4	12.3	14.5	9.3	11.7	12.2	12.8
Depreciation <sup>4</sup> .....bil. dol.	2.3	2.9	4.5	5.0	5.7	(NA)	5.1	5.6	5.9	6.6	7.6
Profits per dollar of sales:											
Before taxes <sup>3</sup> .....cents.	11.0	12.7	11.0	8.4	9.8	8.6	15.6	10.9	12.0	11.0	10.7
After taxes.....cents.	9.7	10.9	9.2	6.7	7.6	6.8	12.8	7.6	8.3	7.5	7.2
Profits on stockholders' equity:											
Before taxes <sup>3</sup> .....percent.	11.4	13.9	13.0	11.0	14.9	(NA)	25.8	17.9	20.3	19.9	19.8
After taxes.....percent.	10.1	11.8	11.0	8.7	11.6	(NA)	21.1	12.5	14.1	13.6	13.3

NA Not available. <sup>1</sup> Estimates based on FTC reporting requirements in use prior to 1974.

<sup>2</sup> Beginning 1974, based on new FTC reporting requirements. <sup>3</sup> Federal income taxes.

<sup>4</sup> Includes depletion and accelerated amortization of emergency facilities.

Source: U.S. Federal Trade Commission, *Quarterly Financial Report for Manufacturing, Mining and Trade Corporations*.

# **NO. 1024. MAJOR PETROLEUM COMPANIES—FINANCIAL DATA SUMMARY: 1969 TO 1978**

[Data represent a composite of approximately 40 major worldwide petroleum companies aggregated on a consolidated, total company basis]

ITEM	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
<b>FINANCIAL DATA</b> (bil. dol.)										
Net income.....	6.8	6.9	7.2	6.8	11.8	15.9	11.6	14.3	15.1	15.6
Depreciation, depletion, etc.....	5.7	7.4	8.0	9.1	10.5	13.0	11.3	14.8	18.3	21.8
Cash flow <sup>1</sup> .....	12.6	14.2	15.2	15.9	22.3	28.9	22.8	29.1	33.4	37.4
Dividends paid.....	3.7	3.8	3.8	3.8	4.0	4.5	4.7	5.4	6.3	6.6
Net internal funds available for investment or debt repayment <sup>2</sup> .....	8.9	10.5	11.4	12.1	18.3	24.5	18.1	23.7	27.1	30.8
Capital and exploratory expenditures.....	12.9	13.3	14.2	14.3	16.3	25.8	26.9	30.7	31.8	34.3
Long-term capitalization.....	78.7	84.5	90.5	93.7	102.9	112.9	121.1	137.8	150.1	164.8
Long-term debt.....	16.3	18.5	20.8	21.8	22.5	25.0	28.9	39.1	38.4	43.7
Preferred stock.....	.5	1.3	.4	.4	.4	.4	.4	.3	.9	.9
Common stock and retained earnings <sup>3</sup> .....	61.9	64.6	69.3	71.5	80.0	87.4	91.9	103.5	110.8	120.2
Excess of expenditures over cash income <sup>4</sup> .....	4.0	2.8	2.8	2.2	-2.0	1.3	8.9	6.9	4.7	3.5
<b>RATIOS<sup>5</sup> (percent)</b>										
Long-term debt to long-term capitalization.....	20.6	21.9	23.0	23.3	22.0	22.2	23.8	27.4	25.6	26.5
Net income to total average capital.....	9.0	8.3	8.2	7.4	12.0	14.8	10.0	10.7	10.1	9.9
Net income to avg. common equity.....	11.4	10.7	10.8	9.7	15.6	19.0	13.1	14.3	13.9	13.5

<sup>1</sup> Generally represents internally-generated funds from operations. Sum of net income and noncash charges such as depreciation, depletion, and amortization. <sup>2</sup> Cash flow minus dividends paid. <sup>3</sup> Includes common stock, capital surplus, and earned surplus accounts after adjustments. <sup>4</sup> Capital and exploratory expenditures plus dividends paid minus cash flow. <sup>5</sup> Represent approximate year-to-year comparisons because of changes in the makeup of the group due to mergers and other corporate changes.

Source: U.S. Dept. of Energy, *Summary of Aggregate Financial Data and Composite Annual Comparisons of 40 Major Petroleum Companies*, Nov. 1, 1977; and unpublished data. Data from C. H. Pforzheimer & Co., New York, N.Y.

# **NO. 1025. ELECTRIC UTILITY ENERGY USE, 1960 TO 1978, AND PROJECTED REQUIREMENTS, 1980 TO 1990**

[Excludes industrial facilities and railways having own generating facilities. For explanation of average annual percent change, see Guide to Tabular Presentation]

ITEM	1960	1965	1970	1975	1976	1977	1978 <sup>1</sup>	1980	1985	1990
Energy use.....bil. kWh	753	1,055	1,532	1,918	2,037	2,124	2,207	2,505	3,238	4,142
Annual percent change <sup>2</sup> .....	6.7	7.0	7.7	4.6	6.2	4.3	3.9	5.7	5.3	5.0
Per capita <sup>3</sup> kWh.....1,000	4.2	5.5	7.5	9.0	9.5	9.8	10.1	11.3	13.9	17.0
Peak load.....mil. kW	138	189	276	345	359	390	396	460	591	756
Annual percent change <sup>2</sup> .....	7.1	6.5	7.9	4.6	4.1	8.6	1.5	6.1	5.1	5.0

<sup>1</sup> Preliminary. <sup>2</sup> Average annual change from prior year shown; for 1980, change from 1955.

<sup>3</sup> Based on U.S. Bureau of the Census population data including Armed Forces abroad for July 1, except 1970. Projection figures used are for series II (see table 6, p. 8) based on 1976 estimates of the population.

Source: 1960-1975, U.S. Federal Power Commission, unpublished data; thereafter, U.S. Energy Information Administration, *Annual Summary of Capacity, Production, and Fuel Consumption*; and unpublished data.

# **No. 1026. ELECTRIC ENERGY PRODUCTION AND INSTALLED GENERATING CAPACITY, BY TYPE OF PRIME MOVER AND CONSUMPTION OF FUELS: 1960 TO 1978**

[Production for calendar years; other data as of December 31, 1960 excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1970*, series S 32-52, S 78-82, and S 86-107]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>PRODUCTION</b>									
Total.....bil. kWh.....	842	1,158	1,636	1,965	1,968	2,003	2,125	2,212	2,286
Average annual percent change <sup>1</sup> .....	6.0	6.6	7.2	6.3	1	1.8	6.1	4.1	3.3
Production, kWh per kW of capacity.....	4,529	4,548	4,438	4,262	3,960	3,798	3,863	3,818	3,819
Industrial plants <sup>2</sup> .....bil. kWh.....	88	102	104	105	101	85	87	88	79
Electric utilities <sup>3</sup> .....bil. kWh.....	753	1,055	1,532	1,860	1,867	1,918	2,038	2,124	2,207
Privately owned.....bil. kWh.....	579	809	1,188	1,452	1,442	1,487	1,582	1,684	1,721
Percent of total utilities.....	76.8	76.7	77.2	78.1	77.2	77.5	77.6	79.3	78.0
Publicly owned.....bil. kWh.....	175	246	349	408	425	431	456	440	485
Municipal.....bil. kWh.....	37	50	71	81	79	82	78	83	90
Federal.....bil. kWh.....	112	145	186	212	220	221	236	214	235
Cooperatives and other.....bil. kWh.....	26	51	91	115	126	128	141	143	160
<b>Source of energy (percent):</b>									
Coal <sup>4</sup> .....	53.5	54.1	46.1	45.8	44.6	44.7	46.5	46.6	44.4
Nuclear.....	.1	.4	1.4	4.5	6.1	9.0	9.4	11.8	12.5
Oil.....	6.1	6.1	11.9	16.8	16.0	15.1	15.7	16.8	16.5
Gas.....	21.0	21.0	24.3	18.3	17.1	15.6	14.5	14.4	13.8
Hydro.....	19.3	18.4	16.2	14.8	16.3	15.6	13.9	10.4	12.7
<b>INSTALLED CAPACITY</b>									
Total.....mil. kW.....	186	255	360	461	497	527	550	579	598
Average annual percent change <sup>1</sup> .....	7.3	6.5	7.2	10.6	7.8	6.0	4.6	5.3	3.3
Industrial plants <sup>2</sup> .....mil. kW.....	18	18	19	19	19	19	19	19	19
Electric utilities <sup>3</sup> .....mil. kW.....	168	236	342	442	478	508	531	560	579
Privately owned.....mil. kW.....	128	178	263	348	377	399	415	438	454
Percent of total utilities.....	76.5	75.2	76.9	78.7	78.9	78.5	78.2	78.2	78.3
Publicly owned.....mil. kW.....	40	59	79	94	101	109	116	122	126
Municipal.....mil. kW.....	11	15	21	25	27	29	31	33	34
Federal.....mil. kW.....	22	32	39	45	46	50	52	53	54
Cooperatives and other.....mil. kW.....	6	11	19	24	28	30	33	36	37
<b>ELECTRIC UTILITIES<sup>3</sup> TYPE OF PRIME MOVER</b>									
Number of prime movers, total <sup>5</sup> .....	3,435	3,290	3,533	3,681	3,691	3,587	3,576	3,587	3,586
Hydro.....	1,331	1,231	1,188	1,161	1,159	1,146	1,140	1,145	1,146
Steam conventional.....	1,055	1,059	998	992	994	937	927	926	926
Gas turbine.....			323	460	494	497	510	520	529
Steam nuclear.....	5	9	16	30	38	42	45	49	50
Internal combustion.....	1,044	991	1,008	1,038	1,006	965	964	947	939
Production.....bil. kWh.....	753	1,055	1,492	1,861	1,867	1,918	2,038	2,124	2,207
Hydro.....bil. kWh.....	146	194	249	272	301	300	284	220	281
Steam conventional.....bil. kWh.....	602	852	1,201	1,469	1,414	1,417	1,534	1,619	1,613
Gas turbine.....bil. kWh.....			15	30	32	22	24	29	31
Steam nuclear.....bil. kWh.....	1	4	22	83	114	173	191	251	276
Internal combustion.....bil. kWh.....	4	5	5	7	6	6	5	5	5
Installed capacity.....mil. kW.....	168	236	340	442	479	508	531	560	579
Hydro.....mil. kW.....	32	44	55	62	64	66	68	69	71
Steam conventional.....mil. kW.....	133	188	260	321	338	353	368	388	400
Gas turbine.....mil. kW.....			15	33	40	44	47	48	49
Steam nuclear.....mil. kW.....	(2)	1	6	21	32	40	43	50	54
Internal combustion.....mil. kW.....	3	3	4	5	5	5	5	5	6
<b>ELECTRIC UTILITIES<sup>3</sup> CONSUMPTION OF FUELS</b>									
Net generation by fuel <sup>4</sup> .....bil. kWh.....	607	861	1,244	1,588	1,566	1,618	1,755	1,904	1,926
Annual percent change <sup>1</sup> .....	6.9	7.2	7.6	8.5	-1.4	3.3	8.5	8.5	1.2
Coal.....bil. kWh.....	403	571	675	849	830	853	945	985	977
Percent of total.....	66.4	66.3	54.3	53.5	53.0	52.7	53.8	51.7	50.7
Fuel oil.....bil. kWh.....	46	65	179	313	299	289	320	358	364
Gas.....bil. kWh.....	158	221	367	341	320	300	295	306	305
Nuclear.....bil. kWh.....	1	4	22	83	114	173	191	251	276
<b>Fuel consumed:</b>									
Total coal equivalent.....mil. sh. tons.....	266	369	592	729	740	770	832	922	950
Coal, including lignite.....mil. sh. tons.....	177	245	321	390	392	406	448	477	482
Oil.....mil. (42-gal.) bbl.....	85	115	336	560	536	506	566	624	636
Gas.....bil. cu. ft.....	1,724	2,321	3,932	3,659	3,443	3,158	3,081	3,191	3,188

Z Less than .5 million. <sup>1</sup> Change from prior year shown; for 1960, change from 1955. For explanation of average annual percent change, see Guide to Tabular Presentation. <sup>2</sup> Plants of 100 kilowatts and over, including stationary powerplants of railroads. <sup>3</sup> For public use. <sup>4</sup> Includes small percentage from wood and waste and geothermal sources. <sup>5</sup> Each prime mover type in combination plants counted separately.

<sup>6</sup> Includes limited output of wood, waste, and geothermal power.

Source: 1960-1970, U.S. Federal Power Commission, *Electric Power Statistics*, and press releases; thereafter, U.S. Energy Information Administration, *Six-Year Summary of Power Production and Generating Capacity Data*, and *Annual Summary of Capacity, Production and Fuel Consumption*.

**NO. 1027. ELECTRIC ENERGY—PRODUCTION AND INSTALLED GENERATING CAPACITY,  
1970 TO 1978, AND PERCENT PRIVATELY OWNED, 1978, BY STATES**

[Capacity as of Dec. 31. Covers utilities for public use and industrial plants. Minus sign (—) denotes decrease]

STATE	PRODUCTION (bil. kWh)				INSTALLED CAPACITY (mil. kW)				ANNUAL PER- CENT CHANGE, <sup>1</sup> 1970-1978		PERCENT PRIVATELY OWNED, <sup>2</sup> 1978	
	1970	1975	1977	1978	1970	1975	1977	1978	Pro- duction	Capac- ity	Pro- duction	Capac- ity
<b>U.S.</b>	<b>1,636.4</b>	<b>2,003.0</b>	<b>2,212.0</b>	<b>2,285.9</b>	<b>360.3</b>	<b>527.3</b>	<b>579.4</b>	<b>598.5</b>	<b>4.3</b>	<b>6.6</b>	<b>78.0</b>	<b>78.3</b>
<b>N.E.</b>	<b>65.3</b>	<b>73.9</b>	<b>80.6</b>	<b>84.0</b>	<b>14.5</b>	<b>21.6</b>	<b>22.1</b>	<b>22.0</b>	<b>3.2</b>	<b>5.4</b>	<b>99.4</b>	<b>97.1</b>
Maine	7.1	10.5	10.8	11.1	1.4	2.3	2.3	2.6	5.7	8.1	99.8	98.9
N.H.	5.4	5.0	5.6	5.1	1.2	1.6	1.6	1.6	-7	3.7	100.0	100.0
Vt.	1.0	4.6	4.6	4.2	.3	.9	1.0	1.0	19.7	16.2	98.3	92.6
Mass.	30.2	31.3	34.1	37.0	6.6	9.8	10.4	10.1	2.6	5.5	99.0	95.5
R.I.	1.6	.8	.6	.6	.4	.3	.3	.3	-11.5	-3.5	99.3	99.3
Conn.	20.0	21.7	25.0	26.0	4.6	6.6	6.5	6.4	3.3	4.2	99.8	98.9
<b>M.A.</b>	<b>221.3</b>	<b>245.5</b>	<b>266.7</b>	<b>273.0</b>	<b>52.3</b>	<b>69.3</b>	<b>77.8</b>	<b>78.7</b>	<b>2.7</b>	<b>5.2</b>	<b>86.9</b>	<b>90.8</b>
N.Y.	97.7	109.5	115.0	115.5	22.7	28.9	31.8	31.8	2.1	4.3	69.3	77.9
N.J.	38.2	24.0	31.2	31.2	8.9	11.6	12.8	12.6	-2.5	4.4	99.1	99.1
Pa.	85.3	112.0	120.6	126.3	20.7	28.8	33.2	34.3	5.0	6.5	100.0	100.0
<b>E.N.C.</b>	<b>312.2</b>	<b>373.3</b>	<b>395.0</b>	<b>405.3</b>	<b>67.8</b>	<b>95.6</b>	<b>103.0</b>	<b>106.7</b>	<b>3.3</b>	<b>5.8</b>	<b>96.3</b>	<b>95.3</b>
Ohio	85.6	105.7	113.0	112.1	18.2	25.7	27.8	27.9	3.4	5.5	99.1	97.1
Ind.	59.1	65.4	68.8	68.0	12.2	14.6	16.2	16.9	1.8	4.2	96.7	96.8
Ill.	76.6	94.7	102.4	108.5	18.3	26.0	29.0	29.7	4.5	6.2	97.4	96.3
Mich.	61.1	72.3	72.9	78.0	12.2	20.0	20.6	22.0	3.1	7.7	93.5	93.0
Wis.	29.7	35.4	38.0	38.7	6.9	9.3	9.4	10.2	3.4	5.0	90.4	90.4
<b>W.N.C.</b>	<b>102.8</b>	<b>136.6</b>	<b>154.4</b>	<b>162.2</b>	<b>24.7</b>	<b>37.7</b>	<b>43.0</b>	<b>44.4</b>	<b>5.9</b>	<b>7.6</b>	<b>66.9</b>	<b>66.9</b>
Minn.	20.4	28.3	35.1	35.3	4.5	7.3	8.7	8.7	7.1	8.6	95.4	87.5
Iowa	15.1	16.4	18.6	18.0	3.7	5.5	5.7	6.6	2.2	7.5	88.2	83.3
Mo.	29.4	40.8	46.4	46.2	7.7	11.2	13.6	13.9	5.8	7.7	76.8	75.8
N. Dak.	6.7	8.4	10.4	13.0	1.4	1.7	2.2	2.2	8.6	5.8	4.7	4.5
S. Dak.	7.3	10.1	8.0	9.8	1.7	2.1	2.1	2.2	3.8	3.3	30.7	35.0
Nebr.	8.0	13.3	14.9	15.2	2.0	3.8	3.9	3.9	8.4	8.7	—	—
Kans.	15.9	19.2	21.0	24.7	3.7	6.0	6.8	6.8	5.7	7.9	83.5	75.3
<b>S.A.</b>	<b>263.3</b>	<b>355.5</b>	<b>402.1</b>	<b>411.8</b>	<b>56.6</b>	<b>95.2</b>	<b>105.9</b>	<b>108.8</b>	<b>5.8</b>	<b>8.5</b>	<b>93.5</b>	<b>91.5</b>
Del.	5.8	6.2	6.7	7.3	1.0	1.6	1.7	1.7	2.9	6.9	92.9	88.9
Md.	29.9	28.1	34.7	36.2	5.3	7.8	9.3	9.4	2.4	7.4	99.7	99.2
D.C.	3.1	1.2	1.8	1.8	1.1	1.3	1.3	1.3	-6.6	2.1	100.0	100.0
Va.	31.0	37.3	40.3	43.3	6.8	10.2	10.2	11.2	4.3	6.4	97.9	97.3
W. Va.	39.1	63.5	68.4	64.0	7.2	12.5	13.1	13.1	6.4	7.8	100.0	100.0
N.C.	53.1	54.6	65.3	65.1	10.0	15.2	16.1	16.1	2.6	6.1	98.3	97.5
S.C.	19.0	40.3	41.2	44.3	4.6	11.1	11.5	12.1	11.2	12.9	84.0	84.5
Ga.	29.4	44.2	54.2	55.2	6.7	13.4	14.6	15.6	8.2	11.1	96.0	92.1
Fla.	57.8	80.1	89.4	94.6	13.9	22.1	28.1	28.4	6.4	9.3	84.3	82.0
<b>E.S.C.</b>	<b>151.6</b>	<b>176.2</b>	<b>210.1</b>	<b>207.3</b>	<b>31.8</b>	<b>47.0</b>	<b>50.5</b>	<b>52.2</b>	<b>4.0</b>	<b>6.4</b>	<b>36.9</b>	<b>39.6</b>
Ky.	46.2	51.1	56.6	55.6	9.4	12.1	13.0	13.5	2.6	4.6	40.3	46.2
Tenn.	45.0	55.9	61.1	60.4	9.8	14.6	14.6	14.6	3.8	5.1	1.2	1.2
Ala.	49.9	57.1	75.2	71.6	10.2	15.6	17.6	18.6	4.6	7.8	49.5	50.7
Miss.	11.6	12.1	17.2	19.6	2.5	4.7	5.3	5.6	6.8	10.6	91.8	86.8
<b>W.S.C.</b>	<b>210.1</b>	<b>261.9</b>	<b>302.2</b>	<b>317.1</b>	<b>46.1</b>	<b>71.4</b>	<b>79.9</b>	<b>84.5</b>	<b>5.3</b>	<b>7.9</b>	<b>88.4</b>	<b>82.5</b>
Ark.	15.4	15.2	17.6	19.7	3.6	5.2	5.2	5.7	3.1	5.9	80.2	74.6
La.	46.1	50.1	60.4	61.8	9.2	13.3	14.8	14.7	3.7	6.0	91.1	88.0
Okla.	23.6	33.4	36.6	41.0	4.8	7.9	9.3	9.8	7.2	9.3	88.2	80.7
Tex.	125.0	163.2	187.6	194.6	28.4	44.9	50.6	54.3	5.7	8.4	88.5	82.3
<b>Mt.</b>	<b>76.7</b>	<b>115.8</b>	<b>138.7</b>	<b>141.2</b>	<b>17.7</b>	<b>28.6</b>	<b>32.3</b>	<b>33.5</b>	<b>7.9</b>	<b>8.3</b>	<b>69.2</b>	<b>66.4</b>
Mont.	10.0	11.9	13.5	16.9	1.8	2.4	3.0	3.1	6.8	7.0	65.1	62.1
Idaho	7.2	10.4	6.9	10.0	1.3	1.7	1.7	1.8	4.2	4.2	65.3	64.3
Wyo.	6.6	12.2	20.0	19.4	1.2	2.8	3.4	3.7	14.4	15.1	94.8	93.9
Colo.	12.2	16.8	20.7	21.2	2.9	4.4	4.8	4.8	7.2	6.5	67.8	63.6
N. Mex.	15.5	20.2	22.0	20.0	3.6	4.2	4.6	4.7	3.2	3.4	96.3	94.7
Ariz.	14.4	28.0	31.1	30.5	4.3	7.9	9.1	9.3	9.8	10.1	24.0	32.1
Utah	4.7	7.4	8.5	10.0	1.0	1.5	1.9	2.4	9.9	11.6	93.7	91.7
Nev.	5.9	13.8	15.9	13.1	1.6	3.6	3.7	3.7	10.5	11.1	87.4	81.5
<b>Pac.</b>	<b>233.1</b>	<b>264.4</b>	<b>262.2</b>	<b>283.8</b>	<b>48.8</b>	<b>61.1</b>	<b>64.9</b>	<b>67.6</b>	<b>2.5</b>	<b>4.2</b>	<b>45.6</b>	<b>48.9</b>
Wash.	73.0	83.5	80.0	99.8	13.0	17.1	18.6	19.9	4.0	5.5	10.3	12.0
Oreg.	30.4	35.0	31.7	34.1	5.7	7.8	7.9	8.1	1.5	4.5	27.1	45.6
Calif.	123.7	127.2	140.7	139.9	28.6	34.0	35.9	37.1	1.6	3.3	73.9	68.0
Alaska	1.5	2.5	3.1	3.2	.4	.7	1.0	1.1	9.9	13.5	3.2	3.1
Hawaii	4.4	6.2	6.6	6.8	1.1	1.4	1.6	1.6	5.6	4.8	100.0	100.0

— Represents zero.

<sup>1</sup> For explanation of average annual percent change, see Guide to Tabular Presentation.    <sup>2</sup> Electric utilities.

Source: 1970, U.S. Federal Power Commission, *Electric Power Statistics*, monthly; thereafter, U.S. Energy Information Administration, *Six-Year Summary of Power Production and Generating Capacity Data and Annual Summary of Capacity, Production, and Fuel Consumption*.

**No. 1028. ELECTRIC UTILITY INDUSTRY—CAPABILITY, PEAK LOAD, AND CAPABILITY MARGIN: 1970 TO 1978**  
[Excludes Alaska and Hawaii]

YEAR	CAPABILITY			PEAK LOAD		CAPABILITY MARGIN	
	Total (mil. kW)	Annual increase (mil. kW)	Percent annual increase <sup>1</sup>	Total (mil. kW)	Annual percent change <sup>1</sup>	Total (mil. kW)	Percent of capability
1970: Summer.....	326.9	26.6	8.9	274.7	6.6	52.3	16.0
December.....	339.1	27.6	8.9	248.6	5.1	90.5	26.7
1973: Summer.....	415.5	33.8	8.9	343.9	7.8	71.6	17.2
Winter.....	433.2	39.1	9.9	295.1	4.1	138.1	31.9
1974: Summer.....	444.4	28.9	7.0	349.3	1.6	95.2	21.4
Winter.....	467.4	34.2	7.9	302.5	2.5	164.9	35.3
1975: Summer.....	479.3	34.9	7.9	356.8	2.2	122.5	25.6
Winter.....	492.5	25.1	5.4	331.1	9.5	161.4	32.8
1976: Summer.....	498.8	19.5	4.1	370.9	4.0	127.9	25.6
Winter.....	511.0	18.5	3.8	349.9	5.7	161.1	31.5
1977: Summer.....	516.0	17.3	3.5	396.4	6.9	119.7	23.2
Winter.....	537.6	26.6	5.2	360.2	2.9	177.4	33.0
1978: Summer.....	545.7	29.7	5.8	408.1	3.0	137.7	25.2
Winter.....	561.6	24.0	4.5	383.1	6.4	178.5	31.8

<sup>1</sup> Percent change from previous year; e.g. 1970 from 1969 and 1973 from 1972.

Source: Edison Electric Institute, Washington, D.C., 1977 *Statistical Year Book of the Electric Utility Industry and 1979 Annual Electric Power Survey*.

**No. 1029. PRIVATELY AND PUBLICLY OWNED ELECTRIC UTILITY GENERATING PLANTS—NUMBER AND CAPACITY, BY TYPE AND SIZE OF PRIME MOVER: 1970 TO 1978**  
[Capacity as of Dec. 31]

TYPE AND SIZE OF PRIME MOVER	NUMBER OF PRIME MOVERS						CAPACITY (mil. kilowatts)					
	1970	1974	1975	1976	1977	1978	1970	1974	1975	1976	1977	1978
PRIVATELY OWNED												
Total.....	2,037	2,137	2,074	2,080	2,078	2,084	262.8	377.3	398.9	415.4	438.3	453.5
Steam conventional.....	672	671	622	623	621	618	222.4	290.1	303.8	316.3	332.3	342.4
Under 100,000 kW.....	220	182	153	148	143	138	8.2	7.2	6.2	5.9	5.7	5.6
100,000-500,000 kW.....	299	276	252	244	239	236	77.1	72.4	65.6	63.7	62.9	63.1
Over 500,000 kW.....	153	213	217	231	239	244	137.1	210.5	232.0	246.7	268.8	273.7
Steam, nuclear.....	15	31	35	37	41	42	5.7	28.2	33.5	35.4	41.7	45.0
Over 500,000 kW.....	7	24	29	31	36	37	4.5	26.9	32.3	34.1	40.8	44.1
Hydro.....	754	734	727	729	730	731	18.9	22.8	23.1	23.1	23.1	23.8
Over 25,000 kW.....	165	170	169	170	171	172	15.6	19.6	19.9	20.0	20.0	20.7
Gas turbine.....	265	387	385	391	395	404	14.4	34.8	37.0	38.8	39.6	40.5
Over 25,000 kW.....	126	251	261	264	270	276	12.1	32.5	34.9	36.7	37.4	38.4
Internal combustion.....	331	314	302	300	291	289	1.3	1.5	1.5	1.7	1.6	1.8
Under 5,000 kW.....	238	208	198	188	183	178	.5	.4	.4	.4	.4	.4
Over 5,000 kW.....	93	106	104	112	108	111	.9	1.1	1.1	1.3	1.2	1.4
PUBLICLY OWNED												
Total.....	1,496	1,554	1,517	1,501	1,509	1,502	78.8	100.3	109.3	115.6	121.9	125.6
Steam, conventional.....	326	323	316	305	305	304	37.7	47.6	49.6	52.1	56.0	57.7
Under 100,000 kW.....	254	234	226	209	205	201	6.9	7.0	6.9	6.6	6.6	6.4
100,000-500,000 kW.....	58	65	66	71	71	73	12.3	14.1	14.8	16.1	16.2	18.6
Over 500,000 kW.....	14	24	24	25	29	30	18.5	26.5	27.8	29.5	33.3	34.6
Steam, nuclear.....	1	7	10	11	8	8	.8	3.4	6.2	7.5	8.2	8.5
Over 500,000 kW.....	1	3	4	6	6	7	.8	2.8	4.9	6.0	7.7	8.5
Hydro.....	434	425	419	411	415	415	36.3	40.9	42.8	44.6	45.6	47.2
Over 25,000 kW.....	164	179	180	181	184	185	35.1	39.7	41.7	43.5	44.5	46.0
Gas turbine.....	58	107	109	120	125	125	1.1	4.8	7.1	7.7	8.4	8.5
Over 25,000 kW.....	12	41	46	53	59	60	.4	3.8	6.1	6.7	7.3	7.4
Internal combustion.....	677	692	693	654	650	650	3.0	3.6	3.6	3.6	3.7	3.8
Under 5,000 kW.....	471	435	404	397	391	387	1.0	.9	.8	.8	.8	.8
Over 5,000 kW.....	206	257	289	257	259	263	2.0	2.7	2.8	2.8	2.9	3.0

Source: 1970, U.S. Federal Power Commission, *Electric Power Statistics*, annual, and press releases; thereafter, U.S. Energy Information Administration, *Six-Year Summary of Power Production and Generating Capacity Data*, and *Annual Summary of Capacity, Production, and Fuel Consumption*.



### NO. 1030. FEDERAL ELECTRIC UTILITY PROJECTS—INSTALLED CAPACITY AND INVESTMENT ALLOCATED TO ELECTRIC PLANT: 1960 TO 1977

[As of June 30. Comprises only electricity-generating plant of these projects; excludes projects not primarily manufacturing electricity (e.g. West Point, Annapolis). Investments represent allocation to power projects for capital equipment and improvements. Reserves for depreciation not deducted]

PROJECT GROUP OR SYSTEM	INSTALLED CAPACITY (1,000 kW)					INVESTMENT ALLOCATED <sup>1</sup> (mil. dol.)				
	1960	1970	1975	1976	1977	1960	1970	1975	1976	1977
<b>Total</b> .....	22,616	36,650	47,394	50,416	52,246	5,398	10,121	15,043	17,196	19,167
Percent capacity of all electric utilities.....	13.5	10.7	9.7	9.5	9.4	(X)	(X)	(X)	(X)	(X)
Central Valley:										
Bureau of Reclamation.....	630	1,322	1,331	1,141	1,141	138	213	332	239	181
Columbia Basin:										
Bonneville Power Admin. <sup>2</sup> .....	-	-	-	-	-	480	1,118	1,626	1,753	1,868
Bureau of Reclamation.....	2,282	2,464	2,733	3,967	3,967	277	359	621	693	693
Corps of Engineers.....	3,781	6,522	8,177	9,597	9,817	850	1,603	2,315	2,862	3,157
Hoover and Parker-Davis:										
Bureau of Reclamation.....	1,595	1,690	1,690	1,699	1,699	209	225	230	232	236
Missouri Basin:										
Bureau of Reclamation.....	397	693	691	663	684	304	508	552	578	606
Corps of Engineers.....	745	2,048	2,048	2,008	2,008	357	714	721	722	723
Southeastern Power Admin.:										
Corps of Engineers.....	1,271	1,910	2,083	2,401	2,651	410	644	746	912	938
Southwestern Power Admin.:										
S'western Power Admin. <sup>2</sup> .....	-	-	-	-	-	27	56	61	62	62
Corps of Engineers.....	601	1,533	1,847	1,923	1,917	203	438	611	613	614
Tennessee Valley Authority...	11,032	17,256	25,450	25,795	27,018	2,054	3,703	6,671	7,722	9,239
Other projects.....	282	1,212	1,344	1,222	1,344	88	540	557	808	850

- Represents zero. X Not applicable. <sup>1</sup> Includes estimates. <sup>2</sup> Transmission.

Source: 1960-1975, U.S. Federal Power Commission; thereafter, U.S. Energy Information Administration, *Statistics of Publicly Owned Electric Utilities in the United States*, annual, and annual summaries.

### NO. 1031. RURAL ELECTRIFICATION ADMINISTRATION—ELECTRIC PROGRAM, SUMMARY OF OPERATIONS: 1960 TO 1978

[Includes Virgin Islands and Puerto Rico. See also *Historical Statistics, Colonial Times to 1970*, series S 147-159]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978 <sup>1</sup>
<b>Loans and guarantees approved, Dec. 31:<sup>2</sup></b>									
Borrowers <sup>3</sup> .....	1,087	1,103	1,096	1,091	1,094	1,095	1,093	1,097	1,101
REA amount.....mil. dol.	4,256	5,793	7,496	8,945	9,674	10,440	11,180	12,068	12,993
Guaranteed amount.....mil. dol.	-	-	-	-	1,075	2,450	6,124	8,873	10,395
Non-REA amount.....mil. dol.	-	-	-	660	917	1,086	1,290	1,566	1,889
<b>Systems in operation, Dec. 31:<sup>4</sup></b>									
Systems <sup>5</sup> .....	1,038	1,052	1,050	1,046	1,047	1,050	1,048	1,051	1,052
Miles energized <sup>6</sup> .....1,000..	1,465	1,567	1,676	1,767	1,798	1,828	1,857	1,890	1,918
Consumers served.....1,000..	4,826	5,541	6,442	7,457	7,768	8,018	8,312	8,631	8,962
<b>Borrowers' operations during year:<sup>7</sup></b>									
Energy generated.....bil. kWh..	4.9	8.8	23.8	32.0	32.8	33.5	38.7	46.0	52.5
Energy purchased.....bil. kWh..	26.1	39.1	60.5	79.2	84.5	91.9	100.1	102.6	107.5
Energy sold.....bil. kWh..	27.3	42.7	76.0	100.7	105.7	112.7	123.2	131.5	141.9
Revenue.....mil. dol.	615	847	1,309	1,913	2,316	2,972	3,556	4,212	5,017
Average monthly consumption per consumer, all consumers.....kWh..	466	654	948	1,120	1,140	1,191	1,254	1,313	1,339
Residential consumers <sup>8</sup> .....kWh..	357	479	687	793	803	840	866	910	937
Total utility plant.....bil. dol.	3.7	5.0	7.7	9.0	10.1	11.8	14.0	17.3	20.4
Employees.....1,000..	(NA)	31.7	37.0	41.4	42.9	43.6	44.7	46.5	48.8

- Represents zero. NA Not available. <sup>1</sup> Preliminary, except loans approved. <sup>2</sup> Cumulative net (excludes loans rescinded). <sup>3</sup> Organizations, mainly cooperatives, to which loans for extending central station electric service in rural areas are made. <sup>4</sup> Includes data at time of repayment of loan for borrowers whose loans have been repaid in full. As of Dec. 31, 1978, there were 110 such borrowers, with 25,498 miles energized and 144,266 consumers served. <sup>5</sup> Rural electric distribution, generation, and transmission systems operated by REA and borrowers. <sup>6</sup> Pole miles of electric distribution and transmission line in service. <sup>7</sup> Excludes energy sales and revenues of power sold by one REA borrower to another. <sup>8</sup> Includes rural-nonfarm and farm consumers.

Source: U.S. Rural Electrification Administration, *Annual Statistical Report—Rural Electric Borrowers*.

# **No. 1032. ELECTRIC UTILITIES—BALANCE SHEET AND INCOME ACCOUNT OF PRIVATELY OWNED COMPANIES: 1960 to 1977**

[In millions of dollars. As of Dec. 31. On the basis of both assets and revenues, these classes (A and B utilities) comprise nearly 100 percent of the privately-owned sector of the electric light and power industry. See also *Historical Statistics, Colonial Times to 1970*, series S 133-146 and V 197-212]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977
<b>COMPOSITE BALANCE SHEET</b>								
<b>Assets and other debits</b> .....	<b>44,742</b>	<b>56,395</b>	<b>87,417</b>	<b>124,849</b>	<b>142,990</b>	<b>157,104</b>	<b>173,080</b>	<b>192,055</b>
Electric utility plant <sup>1</sup> .....	45,456	59,703	93,303	130,840	146,007	160,711	177,566	196,815
Depreciation and amortization.....	8,889	13,631	20,253	26,227	28,870	31,391	35,507	39,814
Net electric utility plant.....	36,567	46,072	73,050	104,613	117,137	128,320	141,999	157,001
Other utility plant.....	4,852	6,613	8,974	10,799	11,281	11,673	12,097	12,619
Depreciation and amortization.....	963	1,418	2,095	2,620	2,865	3,107	3,368	3,662
Net other utility plant.....	3,889	5,195	6,879	8,179	8,416	8,566	8,729	8,957
Total utility plant.....	50,308	66,315	102,277	141,639	157,288	172,384	189,663	209,434
Depreciation and amortization.....	8,852	15,048	22,348	28,847	31,735	34,998	38,535	43,477
Net total utility plant.....	40,456	51,267	79,929	112,792	125,553	137,386	150,728	165,957
Other property and investments.....	1,004	1,247	1,742	3,412	4,014	4,498	4,822	5,607
Current and accrued assets.....	3,066	3,639	5,321	7,705	11,873	13,530	15,571	18,182
Deferred debits.....	216	242	425	940	1,550	1,691	1,959	2,309
<b>Liabilities and other credits</b> .....	<b>44,742</b>	<b>56,395</b>	<b>87,417</b>	<b>124,849</b>	<b>142,990</b>	<b>157,104</b>	<b>173,080</b>	<b>192,055</b>
Capital stock.....	13,322	15,668	20,782	30,836	33,984	37,773	41,613	45,599
Other paid-in capital.....	1,747	2,622	4,400	8,048	9,419	11,531	13,444	15,613
Retained earnings.....	3,736	5,712	9,363	12,396	13,299	14,668	16,233	17,829
Subsidiary earnings <sup>2</sup> .....	(X)	(X)	(X)	394	485	602	667	795
Long-term debt.....	21,035	25,502	41,937	56,673	64,499	70,820	76,210	82,178
Current and accrued liabilities.....	3,112	4,222	7,309	10,963	15,240	18,655	14,054	16,035
Deferred credits and operating reserves.....	277	546	945	1,540	1,855	2,689	4,046	5,064
Contributions in aid of construction.....	188	294	483	652	(X)	(X)	(X)	(X)
Accumulated deferred income taxes.....	1,325	1,829	2,198	3,347	4,209	5,368	6,813	8,342
<b>COMPOSITE INCOME ACCOUNTS</b>								
Electric operating revenues.....	10,116	13,400	19,791	29,104	37,225	44,598	50,552	58,865
Electric operating expenses.....	7,917	10,296	15,310	22,677	30,134	36,075	41,126	48,579
Net electric operating revenues.....	2,199	3,104	4,481	6,427	7,091	8,523	9,426	10,286
Other utility operating income.....	198	304	404	433	495	522	634	589
Total utility operating income.....	2,397	3,409	4,885	6,860	7,586	9,045	10,060	10,875
Other income.....	178	191	774	1,571	1,992	2,208	2,489	2,159
Total income.....	2,575	3,600	5,659	8,431	9,578	11,253	12,549	13,034
Income deductions.....	792	1,019	2,251	3,500	4,454	5,091	5,355	5,026
Net income <sup>3</sup> .....	1,783	2,581	3,408	5,041	5,470	6,132	7,201	8,011

X Not applicable. <sup>1</sup> Includes construction work in progress.

<sup>2</sup> Unappropriated undistributed. <sup>3</sup> Beginning 1973, includes net extraordinary income.

Source: 1960-1975, U.S. Federal Power Commission and, thereafter, U.S. Energy Information Administration, *Statistics of Privately Owned Electric Utilities in the United States*, annual.

## **No. 1033. LARGEST PUBLIC UTILITY COMPANIES—ASSETS, REVENUES, INCOME, AND STOCKHOLDERS' EQUITY, BY RANK OF ASSETS: 1970 AND 1978**

[Excludes telephone and telegraph companies. As of Dec. 31 or calendar year, as applicable]

ASSET GROUP	1970				1978			
	Assets <sup>1</sup>	Operating revenues <sup>2</sup>	Net income	Stockholders' equity <sup>3</sup>	Assets <sup>1</sup>	Operating revenues <sup>2</sup>	Net income	Stockholders' equity <sup>3</sup>
<b>40 largest mil. dol.</b>	<b>73,787</b>	<b>21,349</b>	<b>2,640</b>	<b>26,244</b>	<b>164,201</b>	<b>63,324</b>	<b>6,372</b>	<b>61,209</b>
Lowest ten mil. dol.	11,135	3,445	432	4,110	23,992	11,003	1,009	8,864
Second ten mil. dol.	13,944	4,489	505	4,911	29,835	13,061	1,179	10,912
Third ten mil. dol.	18,066	5,687	628	5,832	41,737	15,838	1,643	15,005
Highest ten mil. dol.	30,642	7,728	1,075	11,391	68,637	23,423	2,541	25,828
<b>Percent of total:</b>								
Lowest ten.....	15.1	16.1	16.4	15.7	14.5	17.4	15.8	14.5
Second ten.....	18.9	21.0	19.1	18.7	18.2	20.6	18.5	17.8
Third ten.....	24.5	26.6	23.8	22.2	25.4	25.0	25.8	25.5
Highest ten.....	41.5	36.2	40.7	43.4	41.8	37.0	40.0	42.2

<sup>1</sup> Total assets employed in business, net of depreciation; includes consolidated subsidiaries. <sup>2</sup> Gross receipts from operations during year; includes nonutility revenues from manufacturing, transportation, etc.

<sup>3</sup> Capital stock, surplus, and retained earnings (i.e. net worth).

Source: Fortune, New York, N.Y., adapted from *The Fortune Directory*. (Copyright by Time, Inc.)

# NO. 1034. ELECTRIC LIGHT AND POWER INDUSTRY—ENERGY GENERATED, SALES, REVENUE, AND CUSTOMERS: 1950 TO 1978

[Prior to 1960, excludes Alaska and Hawaii. Sales and revenue are to and from ultimate customers]

CLASS	1950	1955	1960	1965	1970	1973	1974	1975	1976	1977	1978
Energy generated <sup>1</sup> .....bil. kWh.....	329	547	753	1,055	1,532	1,860	1,867	1,918	2,037	2,124	2,207
Sales <sup>2</sup> .....bil. kWh.....	281	481	683	953	1,391	1,703	1,701	1,733	1,850	1,951	2,018
Residential or domestic.....bil. kWh.....	70	125	196	281	448	554	555	586	613	652	679
Percent of total.....	25.0	26.1	28.7	29.5	32.2	32.5	32.6	33.8	33.2	33.4	33.6
Commercial <sup>3</sup> .....bil. kWh.....	52	78	115	202	313	397	393	418	441	460	481
Industrial <sup>4</sup> .....bil. kWh.....	142	258	345	433	573	687	689	662	725	757	782
Revenue <sup>2</sup> .....bil. dol.....	5.1	8.0	11.5	15.2	22.1	31.7	39.1	46.9	53.5	62.6	69.9
Residential or domestic.....bil. dol.....	2.0	3.3	4.9	6.3	9.4	13.2	15.7	18.8	21.1	24.7	27.4
Percent of total.....	39.7	41.4	42.2	41.8	42.7	41.6	40.1	40.1	39.6	39.4	39.2
Commercial <sup>3</sup> .....bil. dol.....	1.4	1.9	2.8	4.3	6.3	9.1	11.2	13.5	15.2	18.0	19.7
Industrial <sup>4</sup> .....bil. dol.....	1.4	2.4	3.3	3.9	5.4	8.1	10.7	12.7	15.0	17.6	20.3
Ultimate customers, Dec. 31 <sup>2</sup> .....mil.....	45.0	52.6	58.9	65.6	72.5	78.5	80.1	81.8	83.6	85.6	87.7
Residential or domestic.....mil.....	38.9	45.8	51.4	57.6	64.0	69.4	71.0	72.6	74.2	75.9	77.8
Commercial <sup>3</sup> .....mil.....	5.6	6.2	6.8	7.4	7.9	8.4	8.5	8.6	8.8	8.9	9.1
Industrial <sup>4</sup> .....mil.....	.3	.4	.5	.3	.4	.4	.4	.4	.4	.4	.5
Avg. kWh used per customer.....1,000.....	6.4	9.3	11.7	14.7	19.4	22.0	21.4	21.4	22.4	23.1	23.3
Residential.....1,000.....	1.3	2.8	3.9	4.9	7.1	8.1	7.9	8.2	8.4	8.7	8.8
Commercial <sup>3</sup> .....1,000.....	9.3	12.7	17.0	27.4	40.0	47.6	46.6	49.0	50.7	52.9	53.1
Avg. annual bill per customer.....dol.....	115	155	198	234	308	408	493	578	646	740	807
Residential.....dol.....	53	73	95	111	148	192	224	262	288	329	357
Commercial <sup>3</sup> .....dol.....	245	316	418	584	803	1,094	1,327	1,582	1,755	2,031	2,176
Avg. revenue per kWh sold.....cents.....	1.81	1.67	1.69	1.59	1.59	1.86	2.30	2.70	2.89	3.21	3.46
Residential.....cents.....	2.88	2.65	2.47	2.25	2.10	2.38	2.83	3.21	3.45	3.78	4.03
Commercial <sup>3</sup> .....cents.....	2.63	2.50	2.46	2.13	2.01	2.30	2.85	3.23	3.46	3.84	4.10
Industrial <sup>4</sup> .....cents.....	1.02	.94	.97	.90	.95	1.17	1.55	1.92	2.07	2.33	2.59

<sup>1</sup> Source: 1950-1975, U.S. Federal Power Commission; thereafter, U.S. Energy Information Administration, *Six-Year Summary of Power Production and Generating Capacity Data*.

<sup>2</sup> Includes other types not shown separately. <sup>3</sup> Small light and power. <sup>4</sup> Large light and power.

Source: Except as noted, Edison Electric Institute, Washington, D.C., *Statistical Year Book*.

# NO. 1035. ELECTRIC ENERGY SALES, BY CLASS OF SERVICE, AND BY STATES: 1977

[In billions of kilowatthours]

STATE	Total <sup>1</sup>	Residential	Commercial	Industrial	STATE	Total <sup>1</sup>	Residential	Commercial	Industrial
<b>Total</b> .....	<b>1,928.8</b>	<b>641.1</b>	<b>444.9</b>	<b>772.3</b>	<b>S.A.—Con.</b>				
N.E.....	72.5	27.5	22.4	20.8	W. Va.....	19.1	5.8	3.2	10.0
Maine.....	7.6	2.9	1.6	3.0	N.C.....	58.7	21.9	11.7	23.7
N.H.....	5.4	2.3	.9	2.1	S.C.....	34.5	11.3	7.2	15.1
Vt.....	3.2	1.5	.6	.9	Ga.....	47.4	18.6	12.5	15.7
Mass.....	31.5	11.1	11.5	8.0	Fla.....	79.4	38.9	22.5	15.6
R.I.....	4.8	1.8	1.6	1.3	<b>E.S.C.</b>	<b>178.1</b>	<b>58.1</b>	<b>24.0</b>	<b>92.5</b>
Conn.....	20.0	7.9	6.2	5.5	Ky.....	33.8	7.4	4.2	20.6
<b>M.A.</b> .....	<b>243.1</b>	<b>75.4</b>	<b>64.6</b>	<b>91.4</b>	Tenn.....	75.2	26.5	9.7	38.2
N.Y.....	101.3	29.8	31.4	30.9	Ala.....	47.7	15.2	6.3	25.7
N.J.....	46.2	15.4	14.7	15.6	Miss.....	21.4	9.0	3.8	8.0
Pa.....	95.6	30.2	18.5	44.9	<b>W.S.C.</b>	<b>247.5</b>	<b>80.2</b>	<b>51.1</b>	<b>105.6</b>
<b>E.N.C.</b> .....	<b>379.1</b>	<b>111.2</b>	<b>74.7</b>	<b>179.9</b>	Ark.....	23.0	8.8	4.0	9.3
Ohio.....	120.2	30.7	18.2	67.6	La.....	44.7	14.3	7.7	19.2
Ind.....	59.9	18.0	9.4	31.7	Okla.....	26.8	10.3	6.1	8.8
Ill.....	92.9	28.2	24.6	33.8	Tex.....	153.0	46.8	33.3	68.3
Mich.....	72.0	21.7	14.3	34.5	<b>Mt.</b>	<b>94.6</b>	<b>29.1</b>	<b>25.4</b>	<b>35.8</b>
Wis.....	34.1	12.6	8.2	12.3	Mont.....	10.0	2.4	1.6	5.8
<b>W.N.C.</b> .....	<b>127.0</b>	<b>48.9</b>	<b>30.6</b>	<b>43.6</b>	Idaho.....	13.6	4.5	4.1	4.9
Minn.....	28.1	10.4	4.5	12.4	Wyo.....	5.3	1.0	.8	3.4
Iowa.....	22.4	8.9	4.9	8.0	Colo.....	17.9	5.5	5.4	6.2
Mo.....	36.6	14.5	10.7	10.3	N. Mex.....	7.6	2.1	2.6	2.4
N. Dak.....	4.2	2.1	.7	1.2	Ariz.....	23.3	7.9	6.5	7.2
S. Dak.....	4.4	2.2	.7	1.2	Utah.....	8.9	2.8	2.2	3.3
Nebr.....	12.4	4.8	3.5	3.6	Nev.....	8.0	2.9	2.2	2.6
Kans.....	18.9	6.0	5.6	6.9	<b>Pac.</b>	<b>260.1</b>	<b>82.4</b>	<b>72.6</b>	<b>94.6</b>
<b>S.A.</b> .....	<b>326.8</b>	<b>128.3</b>	<b>79.5</b>	<b>108.1</b>	Wash.....	58.8	20.6	8.9	27.1
Del.....	5.5	1.8	1.3	2.3	Oreg.....	34.3	12.4	8.5	12.9
Md. <sup>2</sup> .....	37.7	11.8	10.5	14.9	Calif.....	158.8	46.5	53.3	51.2
Va.....	44.5	18.2	10.6	10.8	Alaska.....	2.4	1.1	.7	.6
					Hawaii.....	5.8	1.8	1.2	2.8

<sup>1</sup> Includes "Other" service, not shown separately. <sup>2</sup> Includes District of Columbia.

Source: U.S. Energy Information Administration, unpublished data.

# NO. 1036. PRIVATELY OWNED GAS UTILITY INDUSTRY—BALANCE SHEET AND INCOME ACCOUNT: 1960 TO 1978

[In millions of dollars. Excludes Alaska for 1960. The gas utility industry consists of pipeline and distribution companies. Excludes operations of companies distributing gas in bottles or tanks. See also *Historical Statistics, Colonial Times to 1970*, series S 205-218]

ITEM	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>COMPOSITE BALANCE SHEET</b>									
<b>Assets, total <sup>1</sup>.....</b>	<b>20,000</b>	<b>25,640</b>	<b>34,929</b>	<b>43,867</b>	<b>46,607</b>	<b>50,286</b>	<b>55,261</b>	<b>59,697</b>	<b>62,918</b>
Total utility plant.....	20,835	28,205	38,541	45,616	47,484	49,384	52,066	55,020	59,033
Depreciation and amortization.....	4,570	7,205	10,696	13,883	15,358	16,779	18,698	20,586	22,861
Utility plant (net).....	16,265	21,000	27,845	31,733	32,126	32,605	33,373	34,434	36,172
Investment and fund accounts <sup>1</sup> .....	1,380	1,885	3,024	6,696	7,539	9,198	10,876	12,513	12,805
Current and accrued assets.....	2,185	2,545	3,674	4,769	6,060	7,543	9,707	11,194	12,129
Deferred debits <sup>2</sup> .....	170	210	386	670	882	940	1,305	1,556	1,815
<b>Liabilities, total <sup>1</sup>.....</b>	<b>20,000</b>	<b>25,640</b>	<b>34,929</b>	<b>43,867</b>	<b>46,607</b>	<b>50,286</b>	<b>55,261</b>	<b>59,697</b>	<b>62,918</b>
Capitalization, total <sup>1</sup> .....	16,940	21,520	28,646	35,290	36,360	39,044	42,379	44,316	45,830
Capital stock <sup>1</sup> .....	7,810	10,005	12,965	17,123	17,942	19,500	21,593	23,840	25,585
Long-term debts.....	9,130	11,515	15,681	18,167	18,418	19,544	20,786	20,476	20,245
Current and accrued liabilities.....	2,420	3,035	4,832	6,162	7,765	8,158	9,063	10,686	11,704
Deferred income taxes <sup>3</sup> .....	350	660	788	1,392	1,665	2,052	2,525	2,794	2,991
Other liabilities and credits.....	290	425	663	1,023	817	1,032	1,294	1,951	2,393
<b>COMPOSITE INCOME ACCOUNT</b>									
Operating revenues, total.....	8,696	11,525	16,380	20,585	24,195	30,550	37,618	46,309	52,995
Operating expenses <sup>4</sup> .....	7,587	10,063	14,306	18,006	21,329	27,480	34,217	42,685	49,272
Operation and maintenance.....	5,951	7,973	11,636	14,582	17,450	22,957	28,949	36,988	43,108
Federal, State, and local taxes.....	1,058	1,292	1,569	2,043	2,291	2,763	3,363	3,719	3,980
Operating income.....	1,109	1,462	2,074	2,579	2,865	3,070	3,403	3,624	3,723
Utility operating income.....	1,137	1,503	2,159	2,708	3,012	3,221	3,543	3,776	3,944
Income before interest charges <sup>1</sup> .....	1,247	1,660	2,457	3,315	3,856	4,137	4,646	4,996	5,385
Net income <sup>1</sup> .....	830	1,107	1,427	1,977	2,303	2,502	2,877	3,193	3,443
Dividends.....	581	781	1,006	1,335	1,363	1,509	1,783	1,959	2,117

<sup>1</sup> Beginning 1973, not comparable with earlier years due to Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries. <sup>2</sup> Includes capital stock discount and expense and reacquired securities. <sup>3</sup> Includes reserves for deferred income taxes. <sup>4</sup> Includes expenses not shown separately.

## NO. 1037. GAS UTILITY INDUSTRY—SUMMARY: 1950 TO 1978

[Excludes Hawaii through 1955 and Alaska through 1960. Covers natural, manufactured, mixed, and liquid petroleum gas. Based on questionnaire mailed to all privately and municipally owned gas utilities in U.S., except those with annual revenues less than \$25,000. See also *Historical Statistics, Colonial Times to 1970*, series S 190-204]

ITEM	1950	1955	1960	1965	1970	1973	1974	1975	1976	1977	1978
<b>Customers <sup>1</sup>.....1,000.....</b>	<b>24,001</b>	<b>28,479</b>	<b>33,054</b>	<b>37,338</b>	<b>41,482</b>	<b>43,711</b>	<b>44,267</b>	<b>44,555</b>	<b>44,942</b>	<b>45,274</b>	<b>45,789</b>
Residential.....	22,146	26,283	30,413	34,341	38,097	40,116	40,628	40,950	41,338	41,682	42,183
Commercial.....	1,739	2,048	2,458	2,790	3,131	3,331	3,392	3,367	3,371	3,371	3,370
Industrial and other.....	116	149	178	207	254	264	249	237	233	220	236
<b>Sales <sup>2</sup>.....trillion Btu <sup>3</sup>.....</b>	<b>4,209</b>	<b>6,659</b>	<b>9,288</b>	<b>11,980</b>	<b>16,044</b>	<b>16,480</b>	<b>16,000</b>	<b>14,863</b>	<b>14,814</b>	<b>14,341</b>	<b>14,748</b>
Residential.....	1,384	2,239	3,188	3,999	4,923	4,994	4,865	4,991	5,014	4,946	5,107
Percent of total.....	32.9	33.6	34.3	33.4	30.7	30.3	30.4	33.6	33.9	34.5	34.6
Commercial.....	410	603	920	1,345	2,007	2,281	2,293	2,387	2,423	2,409	2,500
Industrial.....	2,289	3,535	4,710	6,146	8,439	8,371	8,153	6,837	7,107	6,711	6,841
Other.....	126	282	470	490	674	835	689	648	270	275	301
<b>Revenues <sup>2</sup>.....mil. dol.....</b>	<b>1,948</b>	<b>3,540</b>	<b>5,617</b>	<b>7,407</b>	<b>10,233</b>	<b>12,987</b>	<b>15,242</b>	<b>19,101</b>	<b>23,701</b>	<b>28,303</b>	<b>32,150</b>
Residential.....	1,177	2,007	3,177	4,030	5,207	6,247	6,899	8,445	9,941	11,541	12,939
Percent of total.....	60.4	58.2	56.6	54.4	50.6	48.1	44.9	44.2	41.9	40.8	40.2
Commercial.....	266	424	723	1,054	1,620	2,172	2,539	3,302	4,075	4,980	5,696
Industrial.....	480	938	1,563	2,148	3,181	4,197	5,391	6,745	9,374	11,385	13,065
Other.....	26	81	153	176	274	371	413	608	311	397	450
<b>Prices.....dol. per mil Btu <sup>3</sup>.....</b>	<b>.46</b>	<b>.52</b>	<b>.60</b>	<b>.62</b>	<b>.64</b>	<b>.79</b>	<b>.95</b>	<b>1.29</b>	<b>1.60</b>	<b>1.97</b>	<b>2.18</b>
Residential.....	.85	.90	1.00	1.01	1.06	1.25	1.42	1.69	1.98	2.33	2.53
Commercial.....	.65	.70	.79	.78	.81	.95	1.11	1.38	1.68	2.07	2.28
Industrial.....	.21	.27	.33	.35	.38	.50	.66	.99	1.32	1.70	1.91
<b>Gas mains mileage.....1,000.....</b>	<b>387</b>	<b>497</b>	<b>631</b>	<b>768</b>	<b>913</b>	<b>963</b>	<b>974</b>	<b>980</b>	<b>987</b>	<b>998</b>	<b>1,013</b>
Field and gathering.....	33	46	56	62	66	66	66	68	70	71	75
Transmission.....	113	146	184	211	252	263	262	263	258	260	261
Distribution.....	242	305	391	495	595	634	646	649	659	667	678
<b>Construction expendi- ture <sup>4</sup>.....mil. dol.....</b>	<b>1,198</b>	<b>1,345</b>	<b>1,845</b>	<b>1,935</b>	<b>2,506</b>	<b>2,966</b>	<b>2,965</b>	<b>2,466</b>	<b>2,425</b>	<b>2,833</b>	<b>3,581</b>
Transmission.....	716	593	848	770	1,019	746	632	590	530	670	935
Distribution.....	299	500	696	824	913	1,094	1,097	910	926	1,048	1,228
Production and storage.....	144	198	211	225	370	972	1,060	831	828	943	1,202

<sup>1</sup> Annual average. <sup>2</sup> Excludes sales for resale. <sup>3</sup> For definition, see text, p. 599. <sup>4</sup> Includes general.

Source of tables 1036 and 1037: American Gas Association, Arlington, Va., *Gas Facts*, annual. (Copyright.)

# NO. 1038. GAS UTILITY INDUSTRY—CUSTOMERS, SALES, AND REVENUES, BY CLASS OF SERVICE, AND STATES: 1978

[See headnote, table 1037]

REGION AND STATE	CUSTOMERS <sup>1</sup> (1,000)				SALES <sup>2</sup> (trillion Btu <sup>4</sup> )				REVENUES <sup>3</sup> (mil. dol.)			
	Total <sup>2</sup>	Residential	Commercial	Industrial	Total <sup>2</sup>	Residential	Commercial	Industrial	Total <sup>2</sup>	Residential	Commercial	Industrial
<b>U.S.</b> .....	45,789	42,183	3,369	189	14,748	5,107	2,499	6,841	32,150	12,939	5,696	13,065
<b>N. Eng.</b> .....	1,681	1,553	115	9	269	142	70	54	998	586	251	152
Maine.....	15	14	1	(Z)	2	1	1	1	8	3	2	2
N.H.....	46	42	4	(Z)	8	4	2	2	27	14	7	4
Vt.....	15	13	1	(Z)	4	1	1	2	14	5	3	6
Mass.....	1,051	975	68	5	165	89	45	27	605	365	180	74
R.I.....	162	151	10	1	24	14	4	6	87	56	16	15
Conn.....	392	359	30	2	66	32	17	16	257	143	63	51
<b>Mid. Atl.</b> .....	8,058	7,479	543	23	1,532	803	283	414	4,551	2,656	838	974
N.Y.....	3,933	3,687	223	12	588	347	115	104	1,878	1,225	340	257
N.J.....	1,822	1,638	179	5	264	150	60	54	938	571	215	152
Pa.....	2,303	2,154	141	6	680	306	107	257	1,735	860	294	566
<b>E. No. Cent.</b> .....	10,461	9,657	753	48	3,814	1,652	758	1,392	8,403	3,943	1,672	2,763
Ohio.....	2,722	2,523	191	6	938	437	173	322	2,123	1,081	397	659
Ind.....	1,211	1,107	99	4	449	177	71	198	804	385	143	332
Ill.....	3,228	2,979	229	19	1,178	532	250	395	2,676	1,294	557	824
Mich.....	2,314	2,145	159	9	898	378	203	318	1,950	869	448	633
Wis.....	985	902	74	9	350	129	60	158	790	334	137	316
<b>W. No. Cent.</b> .....	3,983	3,611	353	17	1,465	542	310	602	2,669	1,175	582	897
Minn.....	760	692	61	7	261	104	47	106	550	261	104	180
Iowa.....	719	640	76	2	263	94	57	111	616	216	114	183
Mo.....	1,195	1,110	84	1	351	167	98	84	699	381	195	120
N. Dak.....	80	71	9	(Z)	24	11	11	2	52	26	21	4
S. Dak.....	98	87	11	1	27	12	9	6	51	26	16	9
Nebr.....	428	371	55	2	157	57	38	62	257	112	63	82
Kans.....	702	641	56	5	383	95	51	231	544	153	67	318
<b>So. Atl.</b> .....	3,937	3,607	311	14	1,091	369	208	494	2,555	1,117	516	892
Del.....	80	75	5	(Z)	19	8	3	7	62	31	12	18
Md.....	768	714	48	5	143	73	22	48	446	258	70	118
D.C.....	150	134	16	(Z)	27	14	11	2	86	48	32	5
Va.....	519	474	42	2	115	50	29	32	325	167	81	69
W. Va.....	393	360	32	(Z)	142	54	27	60	308	126	57	115
N.C.....	350	309	39	2	85	35	19	32	232	99	54	77
S.C.....	288	260	26	1	114	21	16	70	220	63	35	115
Ga.....	968	892	73	2	278	98	56	121	590	266	111	207
Fla.....	421	389	31	1	168	18	25	122	296	60	63	168
<b>E. So. Cent.</b> .....	2,177	1,968	192	7	711	224	115	356	1,357	504	236	591
Ky.....	623	568	52	1	170	52	34	48	317	166	64	78
Tenn.....	501	436	58	2	188	49	35	101	345	97	74	171
Ala.....	663	613	46	2	220	60	29	130	444	163	63	216
Miss.....	391	351	37	1	133	33	17	77	250	77	35	126
<b>W. So. Cent.</b> .....	5,319	4,848	437	27	3,233	468	264	2,321	6,272	1,074	537	4,441
Ark.....	473	419	52	2	197	48	32	116	282	80	46	154
La.....	971	903	64	3	513	80	30	388	896	179	57	641
Okla.....	780	704	71	4	507	82	50	358	790	155	83	531
Tex.....	3,096	2,822	249	19	2,016	257	152	1,460	4,304	661	352	3,115
<b>Mt.</b> .....	2,535	2,296	227	9	885	261	170	454	1,580	570	318	657
Mont.....	181	161	19	1	61	24	16	21	120	50	29	36
Idaho.....	109	95	14	(Z)	47	8	9	30	117	27	25	65
Wyo.....	114	100	13	(Z)	56	14	11	30	87	29	20	38
Colo.....	779	694	82	2	252	95	72	84	418	180	124	113
N. Mex.....	305	270	28	3	137	27	15	82	250	65	32	132
Ariz.....	564	519	42	2	156	32	21	99	295	96	46	148
Utah.....	343	321	21	1	118	47	14	57	184	92	16	76
Nev.....	140	135	6	(Z)	54	13	11	30	108	31	26	50
<b>Pac.</b> .....	7,637	7,165	438	34	1,748	645	322	773	3,766	1,313	745	1,697
Wash.....	358	314	42	1	141	33	33	74	380	109	94	175
Oreg.....	259	228	31	1	89	21	15	53	252	76	49	128
Calif.....	6,953	6,564	358	31	1,488	585	267	634	3,076	1,111	587	1,372
Alaska.....	33	29	4	(Z)	27	6	6	10	32	11	9	9
Hawaii.....	33	29	2	2	4	1	1	2	27	7	7	13

Z. Less than 500.

<sup>1</sup> Averages for the year. <sup>2</sup> Includes "other" service, not shown separately.

<sup>3</sup> Excludes sales for resale. <sup>4</sup> For definition, see headnote, table 1009.

Source: American Gas Association, Arlington, Va., *Gas Facts*, annual. (Copyright.)

**NO. 1039. GAS UTILITY INDUSTRY—PRICES, BY STATE: 1970 TO 1978**  
 [In dollars per million Btu. For definition of Btu, see headnote, table 1009. Excludes sales for resale]

REGION AND STATE	1970	1975	1978				REGION AND STATE	1970	1975	1978			
			Total	Residential	Commercial	Industrial				Total	Residential	Commercial	Industrial
U.S.-----	.64	1.29	2.18	2.53	2.28	1.91	So. Atl.— Con.						
N. Eng.-----	1.60	2.87	3.71	4.13	3.58	2.84	W. Va.-----	.64	1.24	2.14	2.44	2.11	1.90
Maine.-----	2.23	3.04	4.17	5.40	4.10	3.33	N.C.-----	.70	1.58	2.74	3.03	2.88	2.37
N.H.-----	1.54	2.21	3.21	3.41	3.19	2.99	S.C.-----	.62	1.10	1.93	2.93	2.17	1.65
Vt.-----	2.22	2.06	3.29	3.61	3.22	3.07	Ga.-----	.57	1.12	2.12	2.71	1.99	1.71
Mass.-----	1.64	2.91	3.67	4.07	3.53	2.69	Fla.-----	.55	1.15	1.76	3.33	2.52	1.38
R.I.-----	1.36	2.82	3.66	4.01	3.72	2.75	E. So. Cent.-----	.51	1.03	1.91	2.25	2.05	1.66
Conn.-----	1.60	2.93	3.91	4.42	3.74	3.06	Ky.-----	.67	1.11	1.87	2.02	1.91	1.62
Mid. Atl.-----	1.06	1.97	2.97	3.31	2.96	2.35	Tenn.-----	.53	1.00	1.83	1.98	2.09	1.67
N.Y.-----	1.21	2.14	3.19	3.53	2.94	2.47	Ala.-----	.52	1.04	2.02	2.73	2.17	1.60
N.J.-----	1.26	2.31	3.54	3.80	3.56	2.82	Miss.-----	.38	.95	1.88	2.37	2.06	1.04
Pa.-----	.87	1.68	2.55	2.81	2.64	2.21	W. So. Cent.-----	.35	.99	1.94	2.30	2.04	1.91
E. No. Cent.-----	.74	1.34	2.20	2.39	2.21	1.99	Ark.-----	.37	.80	1.43	1.67	1.43	1.33
Ohio.-----	.73	1.35	2.26	2.43	2.24	2.05	La.-----	.30	.85	1.75	2.23	1.91	1.65
Ind.-----	.71	1.16	1.93	2.18	2.00	1.67	Okl.-----	.46	.79	1.56	1.88	1.66	1.48
Ill.-----	.73	1.35	2.27	2.43	2.22	2.08	Tex.-----	.35	1.10	2.14	2.57	2.32	2.13
Mich.-----	.78	1.43	2.17	2.30	2.21	1.99	Mt.-----	.49	.99	1.78	2.19	1.87	1.51
Wis.-----	.80	1.31	2.26	2.58	2.27	2.00	Mont.-----	.54	1.03	1.85	2.05	1.78	1.69
W. No. Cent.-----	.56	1.00	1.83	2.17	1.88	1.49	Idaho.-----	.67	1.48	2.50	3.37	2.84	2.17
Minn.-----	.67	1.19	2.11	2.50	2.26	1.60	Wyo.-----	.34	.70	1.56	2.01	1.82	1.27
Iowa.-----	.62	1.04	1.96	2.30	2.00	1.65	Colo.-----	.48	.90	1.66	1.90	1.72	1.34
Mo.-----	.64	1.18	1.99	2.27	2.00	1.43	N. Mex.-----	.42	.88	1.83	2.38	2.03	1.61
N. Dak.-----	.82	1.26	2.11	2.32	1.89	2.14	Ariz.-----	.57	1.19	1.89	2.97	2.19	1.49
S. Dak.-----	.71	1.05	1.87	2.12	1.78	1.47	Utah.-----	.46	.85	1.56	1.97	1.15	1.32
Nebr.-----	.51	.90	1.64	1.96	1.67	1.33	Nev.-----	.58	1.30	1.99	2.46	2.40	1.64
Kans.-----	.39	.69	1.42	1.60	1.32	1.38	Pac.-----	.58	1.31	2.15	2.04	2.31	2.20
So. Atl.-----	.72	1.39	2.35	3.05	2.48	1.81	Wash.-----	.65	1.55	2.70	3.29	2.86	2.36
Del.-----	.93	1.73	3.20	3.94	3.63	2.46	Oreg.-----	.74	1.80	2.84	3.67	3.20	2.42
Md.-----	1.13	1.97	3.11	3.54	3.12	2.46	Calif.-----	.56	1.26	2.07	1.90	2.20	2.17
D.C.-----	1.28	2.21	3.23	3.46	3.03	2.70	Alaska.-----	.70	.81	1.16	1.81	1.40	.89
Va.-----	.95	1.78	2.83	3.31	2.83	2.17	Hawaii.-----	2.76	6.78	7.60	9.30	7.27	7.15

Source: American Gas Association, Arlington, Va., *Gas Facts*, annual (copyright).

**NO. 1040. WATER POWER—DEVELOPED AND UNDEVELOPED, BY DIVISION: 1950 TO 1977**

[In millions of kilowatts. As of Dec. 31. Excludes Alaska and Hawaii for 1950 and all capacity of reversible equipment at pumped storage projects (10.0 million kW in 1977). Also excludes capacity precluded from development due to wild and scenic river legislation. See also *Historical Statistics, Colonial Times to 1970*, series S 160-175]

DIVISION	DEVELOPED INSTALLED CAPACITY						ESTIMATED UNDEVELOPED CAPACITY					
	1950	1960	1965	1970	1975	1977	1950	1960	1965	1970	1975	1977
United States.-----	18.7	33.2	44.5	52.0	57.0	59.2	87.6	114.2	124.1	128.0	113.7	102.7
New England.-----	1.2	1.5	1.5	1.5	1.5	1.5	3.3	2.9	3.2	3.3	3.3	3.3
Middle Atlantic.-----	1.7	2.5	4.8	4.3	4.2	4.2	6.6	7.6	5.0	4.5	4.3	4.5
E. No. Central.-----	.9	.9	.9	.9	.9	1.0	2.3	3.0	1.4	1.6	1.4	1.3
W. No. Central.-----	.6	1.6	3.0	2.7	2.8	2.8	5.8	6.4	4.1	4.4	2.1	2.1
South Atlantic.-----	2.8	3.8	5.2	5.3	5.8	5.8	8.2	8.4	10.0	9.6	8.4	7.0
E. So. Central.-----	2.7	3.8	4.5	5.2	5.5	5.6	4.7	4.6	4.3	3.8	3.1	2.7
W. So. Central.-----	.5	.9	1.7	1.9	2.3	2.3	3.6	3.9	3.1	3.3	2.7	2.4
Mountain.-----	2.3	4.6	5.6	6.2	6.9	7.1	23.4	28.6	26.5	28.7	19.6	17.6
Pacific.-----	6.0	13.6	17.4	23.9	27.2	29.0	29.8	53.8	66.5	70.9	68.8	61.8

Source: 1950-1975, U.S. Federal Power Commission, *Hydroelectric Power Resources of the United States, Developed and Undeveloped*, January 1, 1976; 1977, U.S. Federal Energy Regulatory Commission, unpublished data.

**NO. 1041. SOLAR COLLECTOR SHIPMENTS, BY TYPE, 1974 TO 1978, AND USE, 1978**

[In thousands of sq. feet, except number of manufacturers. Solar collector-device for intercepting sunlight, converting the sunlight to heat, and carrying the heat to where it will be either used or stored]

ITEM	1974	1975	1976	1977	1978	END USE	1978
Number of manufacturers.-----	45	131	186	321	351	Reported producer shipments:	
Producer shipments:							
Total.-----	1,274	3,743	5,801	10,312	10,860	Total.-----	10,635
Low temperature collector.-----	1,137	3,026	3,876	6,135	5,873	Pool heating.-----	5,970
Medium temperature, special, and other collectors.-----	137	717	1,925	4,176	4,988	Domestic hot water.-----	2,513
						Space heating.-----	1,736
						Space cooling.-----	179
						Other.-----	237

Source: U.S. Energy Information Administration, *Energy Data Report, Solar Collector Manufacturing Activity, July 1978 through December 1978*.

**No. 1042. NUCLEAR POWER PLANTS—NUMBER, CAPACITY, AND GENERATION, 1965 TO 1978, AND PROJECTIONS, 1980 TO 1990**

ITEM	1965	1970	1974	1975	1976	1977	1978	1980	1985	1990
Operating reactors <sup>1</sup> .....	10	19	48	51	59	68	71	81	127	162
Capacity <sup>1</sup> .....mil. kWh.....	.9	6.5	31.6	39.8	42.9	49.9	53.5	63.1	114.0	152.0
Percent of total electric utility capacity.....	.4	1.9	6.6	7.8	8.1	9.0	9.2	10.7	15.0	17.0
Electricity generated.....bil. kWh.....	3.7	21.8	114.0	172.5	191.1	250.9	276.4	363.0	572.4	824.2
Percent of total electric utility generation.....	.4	1.4	6.1	9.0	9.4	11.8	12.5	14.4	19.0	22.0

NA Not available. <sup>1</sup> As of year end. Includes plants shut down permanently or for extended periods.

Source: U.S. Energy Information Administration, *Annual Report to Congress*, vol. 2 and 3, 1978.

**No. 1043. COMMERCIAL NUCLEAR POWER GENERATION, BY COUNTRY: 1970 TO 1978**

[Generation for calendar years; other data as of December. Excludes Communist countries]

COUNTRY	REACTORS			ELECTRICITY GENERATED <sup>1</sup> (bil. kWh)					GROSS CAPACITY (1,000 kW)				
	1970	1975	1978	1970	1975	1976	1977	1978	1970	1975	1976	1977	1978
<b>Total.....</b>	<b>64</b>	<b>140</b>	<b>184</b>	<b>73.9</b>	<b>329.0</b>	<b>388.8</b>	<b>469.4</b>	<b>550.4</b>	<b>15,186</b>	<b>69,196</b>	<b>81,052</b>	<b>91,701</b>	<b>105,675</b>
U. S.....	15	55	72	23.2	181.8	201.6	262.6	292.7	5,211	39,399	44,083	48,344	54,133
Argentina.....	-	1	1	-	2.5	2.6	1.6	2.9	-	340	340	340	367
Belgium.....	1	3	3	.3	6.8	10.0	11.9	12.5	11	1,744	1,744	1,744	1,744
Canada.....	1	5	8	.9	13.2	18.0	26.8	32.9	220	2,890	3,130	4,787	4,788
Germany, F.R. of.....	4	7	10	5.3	21.7	24.5	35.8	32.5	907	3,452	6,413	6,413	6,413
Gr. Britain.....	27	29	32	26.5	30.5	36.8	38.0	36.6	4,783	6,135	7,455	8,102	8,761
Finland.....	-	-	1	-	-	-	2.7	3.2	-	-	-	440	465
France.....	4	10	14	5.7	18.3	15.8	17.9	30.5	1,606	3,066	3,066	4,928	6,842
India.....	2	3	3	2.2	2.5	3.2	2.8	2.3	400	620	620	620	620
Italy.....	3	3	4	3.3	3.8	3.8	3.4	4.4	631	639	630	630	1,490
Japan.....	3	10	18	3.3	16.7	36.7	27.3	50.9	828	5,278	7,428	7,994	11,502
Netherlands.....	1	2	2	.4	3.3	3.9	3.7	4.1	55	523	523	523	523
Pakistan.....	-	1	1	-	.5	.5	.3	.2	-	137	137	137	137
South Korea.....	-	-	1	-	-	-	-	2.3	-	-	-	-	587
Spain.....	1	3	3	.9	7.5	7.5	6.5	7.6	160	1,117	1,117	1,117	1,117
Sweden.....	1	5	6	(2)	12.0	16.0	19.9	23.8	12	3,312	3,312	3,882	3,850
Switzerland.....	1	3	3	1.9	7.7	7.9	8.1	8.3	364	1,054	1,054	1,064	1,064
Taiwan.....	-	-	2	-	-	-	.1	2.7	-	-	-	636	1,272

- Represents zero. Z Less than 50 million kWh. <sup>1</sup> Gross.

Source: McGraw-Hill, Inc., New York, N.Y., *Nucleonics Week*, December issues. (Copyright.)

**No. 1044. URANIUM SUPPLY, ENRICHMENT, AND DISCHARGED COMMERCIAL REACTOR FUEL: 1965 TO 1978**

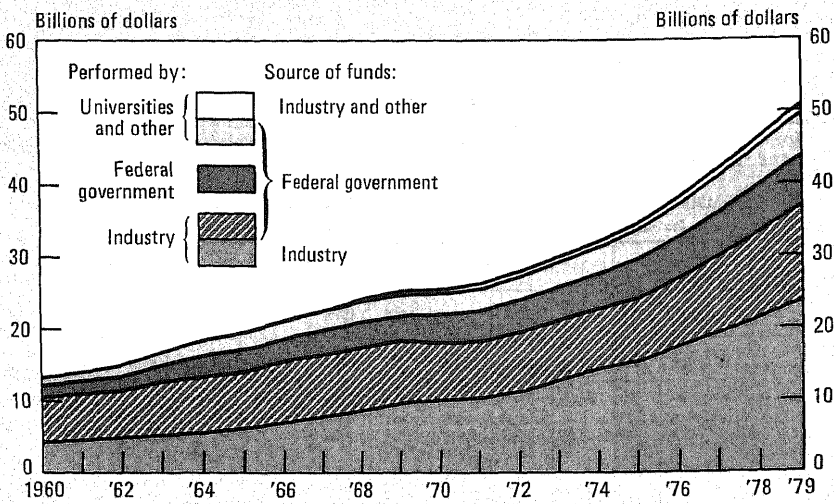
[Years ending Dec. 31, except as noted. Metric ton=1.102 short tons or .984 long ton]

ITEM	1965	1970	1972	1973	1974	1975	1976	1977	1978
<b>URANIUM (U<sub>3</sub>O<sub>8</sub>)</b>									
Production.....sh. tons.....	10,442	12,905	12,900	13,235	11,523	11,600	12,747	14,940	18,400
Exports.....sh. tons.....	-	2,100	100	600	1,600	500	600	2,000	1,500
Imports.....sh. tons.....	4,000	-	-	-	-	700	1,800	2,800	1,600
Delivered price.....dol./lb.....	(NA)	(NA)	(NA)	7.10	7.65	10.50	16.10	19.75	18.50
<b>ENRICHMENT<sup>1</sup></b>									
Enriched product.....metric tons.....	166	1,043	1,597	2,521	4,184	2,270	3,240	2,862	3,313
For domestic customers.....metric tons.....	68	779	1,123	1,030	1,151	1,005	1,430	1,563	1,848
For foreign customers.....metric tons.....	98	264	474	1,491	3,033	1,265	1,810	1,299	1,465
Cost of services.....mil. dol.....	(NA)	83.8	181.7	252.5	719.7	562.6	668.9	659.1	890.1
<b>DISCHARGED COMMERCIAL REACTOR FUEL<sup>2</sup></b>									
Annual discharge.....metric tons.....	(NA)	67	241	149	454	547	730	911	1,299
Inventory, yearend.....metric tons.....	(NA)	161	434	583	1,037	1,584	2,314	3,225	4,524

- Represents zero. NA Not available. <sup>1</sup> Through 1975, for years ending June 30; beginning 1976, years ending Sept. 30; 1976 includes transition quarter, July-Sept. <sup>2</sup> Uranium content. Source: Nuclear Assurance Corporation, Atlanta, Ga. <sup>3</sup> Allows for reprocessing.

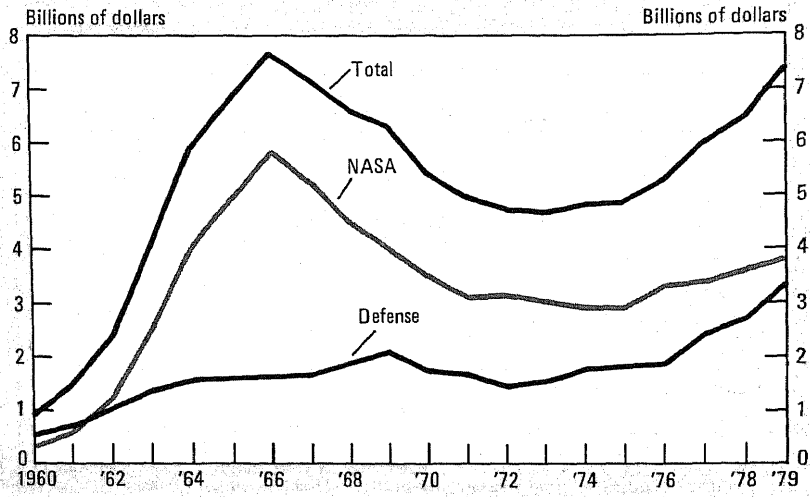
Source: Except as noted, Energy Information Administration, *Annual Report to Congress*, vol. II, 1978; U.S. Dept. of Energy, *Statistical Data of the Uranium Industry, 1978; Uranium Industry Seminar Proceedings, 1978*; and unpublished data.

Figure 21.1  
**Research and Development Funds, By  
Performance Sector and Source: 1960 to 1979**  
(See table 1046)



Source: Chart prepared by U.S. Bureau of the Census.  
Data from the U.S. National Science Foundation.

Figure 21.2  
**Outlays for Federal Space Program: 1960 to 1979**  
(See table 1069)

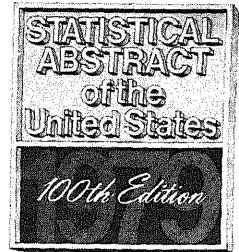


Source: Chart prepared by U.S. Bureau of the Census.  
Data from U.S. Office of Management and Budget.



## Section 21

# Science



This section presents statistics on scientific and technological resources, with emphasis on patterns of research and development funding and on scientific and technical personnel and education. Also included are statistics on space program outlays and accomplishments. Principal sources of these data are the National Science Foundation and the National Aeronautics and Space Administration.

The National Science Foundation (NSF) gathers data chiefly through recurring surveys. Some current NSF publications containing data on funds for research and development and on scientific and engineering personnel include the occasional bulletin series, *Reviews of Data on Science Resources* and *Science Resources Studies Highlights*; and annual, biennial, and periodic reports such as *Federal Funds for Research and Development*; *Research and Development in Industry*; *National Patterns of R & D Resources*; *Human Resources for Scientific Activities at Universities and Colleges*; *Expenditures for Scientific Activities at Universities and Colleges*; *An Analysis of Federal R & D Funding by Function*; *Scientists, Engineers, and Physicians From Abroad*; *Federal Scientific, Technical, and Health Personnel*; *Graduate Science Education: Student Support and Postdoctorals*; *Federal Support to Universities, Colleges, and Selected Nonprofit Institutions*; *Characteristics of Doctoral Scientists and Engineers in the U.S.*; *Characteristics of Experienced Scientists and Engineers*; *Scientific and Technical Personnel in Private Industry*; and policy reports relating to national allocation of human resources and funds to science and technology. Statistical surveys in these areas pose particularly difficult problems of concept and definition and the data should, therefore, be regarded as broad estimates rather than precise quantitative statements. Detailed discussions of the scope and limitations of the data appear in the source publications.

*The Budget of the United States Government*, published by the U.S. Office of Management and Budget, contains summary financial data on Federal research and development programs. In addition, *Aerospace Facts and Figures*, published by Aerospace Industries Association of America, Inc., presents data on sales and orders of space vehicle systems and employment in NASA programs.

**Research and development outlays.**—The National Science Foundation defines research as a “systematic and intensive study directed toward a fuller knowledge of the subject studied” and development as “the systematic use of scientific knowledge directed toward the production of useful materials, devices, systems, methods, or processes.” National data on outlays of funds are composed of four sectors: (1) *Government*, made up primarily of Federal executive agencies; (2) *industry*, consisting of manufacturing and nonmanufacturing firms and the federally funded research and development centers they administer; (3) *colleges and universities*, composed of colleges, universities and their affiliated institutions, agricultural experiment stations and associated schools of agriculture, and federally funded research and development centers administered by educational institutions; and (4) *other nonprofit institutions*, consisting of such organizations as private philanthropic foundations, nonprofit research institutes, voluntary health agencies, and federally funded research and development centers administered by nonprofit organizations. These centers are exclusively or substantially financed by the Federal government and, in most instances, were originally established to meet a particular research and development need of the Government. They are administered on a contractual basis, by companies, educational institutions, or other nonprofit organizations. The research and development funds reported consist of current operating costs, including those for planning and administration, except as otherwise noted. They

exclude funds for routine testing, mapping and surveying, collection of general-purpose data, dissemination of scientific information, and training of scientific personnel.

**Scientists, engineers, and technicians.**—Scientists and engineers are defined as persons engaged in scientific and engineering work at a level requiring a knowledge of sciences equivalent at least to that acquired through completion of a 4-year college course. They are generally classified according to the fields of their employment rather than the discipline in which they received their major training. Technicians are defined as persons engaged in technical work at a level requiring knowledge acquired through a technical institute, junior college, or other type of training less extensive than 4-year college training. Craftsmen and skilled workers are excluded.

**Historical statistics.**—Tabular headnotes provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1970*. See Appendix I.

# NO. 1045. RESEARCH AND DEVELOPMENT—DEFENSE, SPACE, AND OTHER OUTLAYS: 1955 TO 1979

(Includes basic research, applied research, and development. Defense-related outlays comprise all research and development spending by Dept. of Defense, including space activities, and a portion of Department of Energy funds. Space-related outlays are those of the National Aeronautics and Space Administration; they exclude space activities of other Federal agencies, estimated at less than 5 percent of all space research and development spending. Minus sign (—) denotes decrease.)

YEAR	RESEARCH AND DEVELOPMENT OUTLAYS						PERCENT OF TOTAL RESEARCH AND DEVELOPMENT					
	Current dollars		Constant (1972) dollars		Defense-space-related (bil. dol.)	Other (bil. dol.)	Federally funded defense-space-related			Other outlays		
	Total <sup>1</sup> (bil. dol.)	Annual per-cent change	Total (bil. dol.)	Annual per-cent change			Total	De-fense	Space	Total	Non-Fed-eral	Fed-eral
1955-----	6.2	<sup>2</sup> 9.4	10.1	<sup>2</sup> 7.0	3.0	3.1	49	48	1	51	43	8
1956-----	8.4	35.5	13.3	31.4	4.2	4.2	50	49	1	50	42	8
1957-----	9.8	16.9	15.0	13.1	5.3	4.5	54	53	1	47	38	9
1958-----	10.7	9.6	16.2	7.8	5.8	4.9	54	53	1	47	37	10
1959-----	12.4	15.4	18.3	12.9	7.0	5.3	57	54	3	43	35	8
1960-----	13.5	9.4	19.7	7.6	7.4	6.1	55	52	3	44	35	9
1961-----	14.3	5.9	20.7	4.9	8.0	6.3	56	50	6	44	35	9
1962-----	15.4	7.5	21.8	5.6	8.5	6.9	55	48	7	46	36	10
1963-----	17.1	10.8	23.8	9.2	9.4	7.7	55	41	14	44	34	10
1964-----	18.9	10.5	25.9	8.8	10.6	8.3	56	37	19	45	34	11
1965-----	20.0	6.3	27.0	4.0	10.8	9.2	54	33	21	46	35	11
1966-----	21.8	9.0	28.5	5.5	11.4	10.5	52	33	19	48	36	12
1967-----	23.1	6.0	29.3	2.9	11.3	11.8	49	35	14	51	38	13
1968-----	24.6	6.3	29.8	1.7	11.8	12.8	48	35	13	52	39	13
1969-----	25.6	4.2	29.6	—8	11.5	14.1	45	34	11	55	42	13
1970-----	25.9	1.1	28.4	—4.0	11.1	14.8	43	33	10	57	43	14
1971-----	26.6	2.7	27.7	—2.3	10.9	15.7	41	32	9	59	44	15
1972-----	28.4	6.8	28.4	2.5	11.4	17.0	40	32	8	60	45	15
1973-----	30.6	7.7	28.9	1.8	11.6	19.0	38	31	7	62	47	15
1974-----	32.7	6.9	28.2	—2.6	11.4	21.2	35	28	7	65	49	16
1975-----	35.2	7.6	27.7	—1.7	12.3	22.9	35	27	8	65	48	17
1976-----	38.8	10.2	29.0	4.5	13.2	25.6	34	26	8	66	49	17
1977-----	42.9	10.6	30.3	4.5	14.2	28.7	33	25	8	67	50	17
1978, est-----	47.3	10.3	31.1	2.3	15.6	31.7	33	25	8	67	50	17
1979, est-----	51.6	9.1	31.8	2.3	17.0	34.6	33	25	8	67	50	17

<sup>1</sup> Includes revisions not shown in detail. <sup>2</sup> Change from 1954.

Source: U.S. National Science Foundation, *National Patterns of R & D Resources—Funds and Manpower in the United States, 1953-79*; and unpublished data.

**No. 1046. RESEARCH AND DEVELOPMENT FUNDS, BY PERFORMANCE SECTOR AND SOURCE:**  
1960 TO 1979

[In millions of dollars. Data primarily on calendar year basis—calendar year data for industry and other nonprofit institutions combined with Federal and university fiscal year data. Data refer, in general, to natural sciences including engineering, and to social sciences in all but industry sector. Excludes capital expenditures data. Expenditures at associated federally funded research and development centers administered by industry and other nonprofit institutions included in totals of respective sectors. See also *Historical Statistics, Colonial Times to 1970*, series W 109-125]

PERFORMANCE SECTOR AND SOURCE OF FUNDS	1960	1965	1970	1973	1974	1975	1976	1977	1978, est.	1979, est.
<b>Total research and development<sup>1</sup></b>	<b>13,523</b>	<b>20,044</b>	<b>25,905</b>	<b>30,615</b>	<b>32,734</b>	<b>35,200</b>	<b>38,816</b>	<b>42,902</b>	<b>47,295</b>	<b>51,630</b>
In 1972 dollars.....	19,693	26,970	28,355	28,937	28,214	27,684	29,019	30,296	31,136	31,772
Percent Federal as source.....	64.6	64.9	56.6	53.3	51.2	51.6	50.7	50.5	50.4	49.8
Federal Government.....	1,726	3,093	3,855	4,619	4,815	5,397	5,710	6,142	6,565	6,940
Industry.....	10,509	14,185	18,062	21,233	22,867	24,164	26,906	29,895	33,250	36,750
Federal funds.....	6,081	7,740	7,779	8,145	8,220	8,605	9,345	10,419	11,750	13,000
Industry funds.....	4,428	6,445	10,283	13,088	14,647	15,559	17,561	19,476	21,500	23,750
Universities and colleges.....	646	1,474	2,335	2,940	3,023	3,409	3,730	4,064	4,585	4,965
Federal funds.....	405	1,073	1,648	2,038	2,032	2,288	2,501	2,717	3,075	3,315
Industry funds.....	40	41	61	85	96	113	123	139	150	160
University and college funds <sup>2</sup> .....	149	267	461	615	677	750	821	893	1,000	1,110
Other nonprofit institutions funds <sup>2</sup> .....	52	93	165	202	218	258	285	315	360	380
Univ. and colleges, associated federally funded R and D centers.....	360	629	737	817	865	987	1,147	1,384	1,375	1,425
Other nonprofit institutions.....	282	663	916	1,006	1,164	1,243	1,323	1,417	1,520	1,550
Federal funds.....	166	477	649	690	822	875	925	987	1,050	1,035
Industry funds.....	48	62	95	105	111	115	120	124	130	140
Other <sup>3</sup> .....	68	124	172	211	231	253	278	306	340	375
<b>Total research, basic and applied</b>	<b>4,217</b>	<b>6,891</b>	<b>9,226</b>	<b>10,554</b>	<b>11,438</b>	<b>12,474</b>	<b>13,966</b>	<b>15,320</b>	<b>16,770</b>	<b>18,450</b>
In 1972 dollars.....	6,141	9,276	10,099	9,976	9,900	9,811	10,441	10,819	11,041	11,354
Percent Federal as source.....	31.1	40.6	40.9	39.8	39.4	39.3	39.4	38.7	38.6	(NA)
Federal Government.....	755	1,354	1,862	2,096	2,309	2,499	2,868	3,037	3,260	(NA)
Industry.....	2,405	3,250	4,028	4,453	4,983	5,295	5,930	6,575	7,225	(NA)
Federal funds.....	912	1,224	1,207	1,125	1,188	1,287	1,390	1,551	1,725	(NA)
Industry funds.....	1,493	2,026	2,821	3,328	3,795	4,008	4,540	5,024	5,500	(NA)
Universities and colleges.....	612	1,417	2,223	2,772	2,890	3,261	3,562	3,855	4,355	(NA)
Federal funds.....	387	1,036	1,564	1,918	1,961	2,210	2,408	2,597	2,940	(NA)
Industry funds.....	87	89	56	81	90	106	115	130	140	(NA)
University and college funds <sup>2</sup> .....	138	252	448	582	635	703	771	834	940	(NA)
Other nonprofit institutions funds <sup>2</sup> .....	50	90	155	191	204	242	268	294	335	(NA)
Univ. and colleges, associated federally funded R and D centers.....	219	412	485	523	502	573	686	867	870	(NA)
Other nonprofit institutions.....	226	461	628	710	804	846	920	986	1,060	(NA)
Federal funds.....	130	307	409	452	525	545	595	635	680	(NA)
Industry funds.....	38	50	77	85	90	93	97	100	105	(NA)
Other <sup>3</sup> .....	58	104	142	173	189	208	228	251	275	(NA)
<b>Total basic research</b>	<b>1,197</b>	<b>2,555</b>	<b>3,513</b>	<b>3,877</b>	<b>4,144</b>	<b>4,527</b>	<b>4,881</b>	<b>5,440</b>	<b>6,045</b>	<b>6,700</b>
In 1972 dollars.....	1,743	3,438	3,845	3,665	3,571	3,561	3,649	3,842	3,940	4,123
Percent of total research and development.....	8.9	12.7	13.6	12.7	12.7	12.9	12.6	12.7	12.8	13.0
Percent Federal as source.....	13.4	14.2	15.4	13.9	14.7	15.1	14.7	15.9	16.1	(NA)
Federal Government.....	160	364	541	537	611	682	719	866	975	(NA)
Industry.....	376	592	602	631	699	719	817	906	975	(NA)
Federal funds.....	79	186	158	132	163	157	185	206	225	(NA)
Industry funds.....	297	406	444	499	536	562	632	700	750	(NA)
Universities and colleges.....	433	1,138	1,796	2,055	2,153	2,410	2,547	2,787	3,165	(NA)
Federal funds.....	299	879	1,296	1,456	1,522	1,694	1,827	1,992	2,265	(NA)
Industry funds.....	24	26	40	57	61	72	72	82	85	(NA)
University and college funds <sup>2</sup> .....	72	164	350	408	432	479	481	527	600	(NA)
Other nonprofit institutions funds <sup>2</sup> .....	38	69	110	134	138	165	167	186	215	(NA)
Univ. and colleges, associated federally funded R and D centers.....	97	208	269	297	285	309	359	402	410	(NA)
Other nonprofit institutions.....	131	253	305	357	396	407	439	479	520	(NA)
Federal funds.....	80	172	189	213	245	245	265	290	315	(NA)
Industry funds.....	21	29	44	49	52	54	56	58	60	(NA)
Other <sup>3</sup> .....	30	52	72	90	99	108	118	131	145	(NA)

NA Not available. <sup>1</sup> Basic research, applied research, and development.

<sup>2</sup> Includes State and local government funds received by these institutions and used for research and development. <sup>3</sup> Includes estimates for independent nonprofit hospitals and voluntary health agencies.

Source: U.S. National Science Foundation, *National Patterns of R & D Resources—Funds and Personnel in the United States, 1953-78-79*.

# NO. 1047. FEDERAL OBLIGATIONS FOR RESEARCH AND DEVELOPMENT, BY AGENCY: 1970 TO 1979

[In millions of dollars. For years ending June 30 except, beginning 1977, ending Sept. 30. Includes social science research. See *Historical Statistics, Colonial Times to 1970*, series W 142, for total R & D expenditures]

AGENCY	1970	1972	1973	1974	1975	1976	1977	1978, est.	1979, est.
<b>Total</b> .....	<b>15,340</b>	<b>16,498</b>	<b>16,800</b>	<b>17,415</b>	<b>18,988</b>	<b>20,723</b>	<b>23,929</b>	<b>26,420</b>	<b>27,972</b>
Departments:									
Agriculture.....	281	350	367	379	420	462	547	632	636
Commerce.....	122	187	191	181	215	229	245	289	315
Defense <sup>1</sup> .....	7,360	8,318	8,404	8,420	9,012	9,655	10,963	11,825	12,838
Army.....	1,660	2,064	2,014	2,010	1,897	2,014	2,442	2,602	2,833
Navy.....	2,258	2,519	2,655	2,719	3,100	3,328	3,817	4,057	4,502
Air Force.....	2,990	3,254	3,274	3,216	3,513	3,727	4,031	4,399	4,616
Energy <sup>2</sup> .....	1,346	1,298	1,363	1,489	2,047	2,464	3,536	4,196	4,175
HEW <sup>3</sup> .....	1,221	1,751	1,838	2,290	2,363	2,546	2,787	3,132	3,271
NIH <sup>4</sup> .....	873	1,271	1,314	1,737	1,846	2,023	2,244	2,521	2,606
Interior.....	158	220	243	197	287	314	296	372	359
Transportation.....	328	311	311	370	312	295	354	408	372
EPA <sup>5</sup> .....	89	122	181	169	258	259	296	331	330
NASA <sup>6</sup> .....	3,800	3,157	3,061	3,002	3,064	3,447	3,703	3,876	4,192
NSF <sup>7</sup> .....	289	455	480	556	585	609	697	754	828
Veterans Administration.....	59	69	74	85	95	98	107	116	115
Other agencies.....	288	260	288	277	320	346	397	490	539

<sup>1</sup> Includes agencies not shown separately.

<sup>2</sup> Prior to 1974, Atomic Energy Commission; 1974-1977, Energy Research and Development Administration.

<sup>3</sup> Health, Education, and Welfare. <sup>4</sup> National Institutes of Health. <sup>5</sup> Environmental Protection Agency.

<sup>6</sup> National Aeronautics and Space Administration. <sup>7</sup> National Science Foundation.

# NO. 1048. FEDERAL OBLIGATIONS FOR RESEARCH AND DEVELOPMENT, BY SCIENCE FIELD AND FUNCTION: 1970 TO 1979

[In millions of dollars. For years ending June 30 except, beginning 1977, ending Sept. 30. Excludes R and D plant. For any given year, obligations differ from expenditures (see table 1047) because not all funds are expended during year obligated. See *Historical Statistics, Colonial Times to 1970*, series W 126, for total obligations]

ITEM AND FUNCTION	1970	1973	1974	1975	1976	1977	1978, est.	1979, est.
<b>Total R and D</b> .....	<b>15,340</b>	<b>16,800</b>	<b>17,415</b>	<b>18,988</b>	<b>20,723</b>	<b>23,929</b>	<b>26,420</b>	<b>27,972</b>
Basic research.....	1,762	2,001	2,076	2,279	2,425	2,894	3,292	3,637
Applied research.....	3,455	3,914	4,435	4,798	5,448	5,947	6,565	6,846
Development.....	10,123	10,885	10,904	11,911	12,850	15,088	16,562	17,490
National defense.....	7,981	9,002	9,016	9,679	10,430	11,864	12,786	13,833
Space.....	3,510	2,601	2,478	2,511	2,863	3,066	3,141	3,383
Health.....	1,126	1,624	2,096	2,177	2,366	2,604	2,612	3,084
Energy development and conversion <sup>1</sup> .....	425	535	665	1,186	1,439	2,302	2,863	2,827
Environment.....	322	620	659	795	847	954	1,066	1,082
Science and technology base.....	448	550	641	713	785	901	988	1,061
Transportation and communications.....	590	630	703	641	636	705	829	837
Natural resources.....	234	338	332	398	433	500	608	644
Food, fiber, and other agricultural products.....	241	297	292	350	388	459	532	543
Income security and social services.....	106	157	134	149	133	159	182	207
Education.....	147	214	174	149	142	120	137	146
Area and community development, housing, and public services.....	91	97	96	102	104	107	139	129
Economic growth and productivity.....	80	62	66	62	77	86	90	101
International cooperation and development.....	32	33	27	30	45	72	74	97
Crime prevention and control.....	9	35	36	46	36	32	73	48
<b>Total research</b> .....	<b>5,217</b>	<b>5,915</b>	<b>6,510</b>	<b>7,077</b>	<b>7,873</b>	<b>8,841</b>	<b>9,858</b>	<b>10,483</b>
Life sciences.....	1,507	1,958	2,283	2,450	2,646	3,019	3,383	3,507
Engineering sciences.....	1,847	1,712	1,883	2,051	2,378	2,426	2,655	2,791
Physical sciences.....	893	944	990	1,072	1,221	1,511	1,696	1,819
Environmental sciences.....	476	578	634	733	770	921	1,012	1,110
Social sciences.....	209	298	291	303	390	443	530	557
Math. and computer sciences.....	101	124	127	136	153	176	198	230
Psychological sciences.....	112	112	143	145	140	159	178	200
Other sciences.....	72	190	160	187	175	186	196	269

<sup>1</sup> See table 1019 for obligations by subfunction.

Source of tables 1047 and 1048: U.S. National Science Foundation, *Federal Funds for Research and Development, and An Analysis of Federal R & D Funding by Function, 1969-1979*.

**No. 1049. INDUSTRIAL RESEARCH AND DEVELOPMENT FUNDS, BY GEOGRAPHIC DIVISION, 1970 TO 1977, AND BY SOURCE OF FUNDS, 1977**

[For composition of divisions, see fig. I, inside front cover]

GEOGRAPHIC DIVISION	FUNDS (mil. dol.)								PERCENT DISTRIBUTION		
	1970	1973	1974	1975	1976	1977			1970	1975	1977
						Total	Federal Govt.	Private industry			
United States <sup>1</sup> .....	18,062	21,233	22,867	24,164	26,938	29,907	10,545	19,362	100	100	100
New England.....	1,854	2,011	2,058	2,029	2,147	2,407	1,029	1,378	10	8	8
Mid. Atlantic.....	4,479	4,724	5,233	5,374	5,924	6,304	1,541	4,763	25	22	21
E. No. Central.....	3,622	4,417	4,695	4,805	5,377	6,287	599	5,688	20	20	21
W. No. Central.....	766	1,035	1,041	994	1,171	1,512	561	951	4	4	5
So. Atlantic.....	1,424	1,690	1,802	1,751	1,847	2,017	721	1,296	8	7	7
E. So. Central.....	346	356	388	401	427	469	246	223	2	2	2
W. So. Central.....	571	579	728	843	1,113	1,216	524	692	3	3	4
Mountain.....	687	621	622	782	923	1,037	619	418	4	3	3
Pacific.....	4,313	4,654	4,958	5,384	5,924	6,359	4,341	2,018	24	22	21

<sup>1</sup> Beginning 1973, includes undistributed funds, not shown separately.

**No. 1050. FUNDS FOR PERFORMANCE OF INDUSTRIAL RESEARCH AND DEVELOPMENT, BY INDUSTRY, 1965 TO 1977, AND BY SOURCE OF FUNDS, 1976 AND 1977**

[In millions of dollars. Covers basic research, applied research, and development. See also *Historical Statistics, Colonial Times to 1970*, series W 144-160]

INDUSTRY	1965	1970	1975	1976			1977		
				Total	Federal Govt.	Private industry	Total	Federal Govt.	Private industry
Total <sup>1</sup> .....	14,185	18,062	24,164	26,938	9,561	17,377	29,907	10,545	19,362
Electrical equip. and communication.....	3,200	4,220	5,105	5,636	2,555	3,081	5,952	2,696	3,256
Aircraft and missiles.....	5,148	5,219	5,713	6,339	4,930	1,409	7,078	5,496	1,582
Machinery.....	1,065	1,729	3,196	3,487	532	2,955	3,970	577	3,393
Chemicals and allied products.....	1,356	1,773	2,727	3,017	266	2,751	3,267	294	2,973
Motor vehicles, transp. equip.....	1,230	1,591	2,430	2,872	(NA)	(NA)	3,419	(NA)	(NA)
Professional and scientific instruments.....	403	744	1,173	1,298	155	1,144	1,405	156	1,249
Petroleum refining and extraction.....	397	515	693	767	52	715	913	74	839
Primary metals.....	213	275	443	506	26	481	526	25	501
Food and kindred products.....	157	225	312	329	(NA)	(NA)	368	(NA)	(NA)
Fabricated metal products.....	145	207	324	358	36	322	389	45	344
Rubber products.....	162	276	467	502	(NA)	(NA)	586	(NA)	(NA)
Paper and allied products.....	94	178	249	313	(NA)	(NA)	340	(NA)	(NA)
Stone, clay, and glass products.....	112	167	233	263	(NA)	(NA)	293	(NA)	(NA)

NA Not available. <sup>1</sup> Includes industries not available separately.

Source of tables 1049 and 1050: U.S. National Science Foundation; *Research and Development in Industry*, annual.

**No. 1051. FEDERAL OBLIGATIONS TO UNIVERSITIES AND COLLEGES: 1965 TO 1977**

[In millions of dollars, except percent. For years ending June 30 except, beginning 1977, ending Sept. 30. Minus sign (—) denotes decrease]

ITEM	1965	1970	1972	1973	1974	1975	1976	1977
Total Federal obligations.....	2,305	3,237	4,145	3,839	4,480	4,533	5,387	6,473
Annual percent change <sup>1</sup> .....	41.9	—6.5	18.5	—7.4	16.7	1.2	18.8	20.2
Academic science obligations.....	1,816	2,188	2,509	2,464	2,737	2,792	2,944	3,335
Percent of total.....	78.8	67.6	62.7	64.2	61.1	61.6	54.7	51.5
Research and development.....	1,095	1,447	1,853	1,871	2,085	2,225	2,407	2,772
Research and development plant.....	126	45	37	43	29	45	24	36
Other science activities.....	595	696	709	550	623	522	513	526
Nonscience activities.....	489	1,049	1,546	1,375	1,743	1,741	2,443	3,138

<sup>1</sup> For 1965, change from 1964; for 1970, change from 1969; for 1972, change from 1971.

Source: U.S. National Science Foundation, *Federal Support to Universities, Colleges, and Selected Nonprofit Institutions*, annual.

# **No. 1052. RESEARCH AND DEVELOPMENT EXPENDITURES IN SCIENCE AND ENGINEERING IN UNIVERSITIES AND COLLEGES: 1964 TO 1977**

[In millions of dollars. Estimates for nonrespondents account for less than 7 percent of the total]

CHARACTERISTIC	1964	1966	1968	1970	1972	1974	1975	1976	1977
<b>Total</b> .....	<b>1,275</b>	<b>1,715</b>	<b>2,149</b>	<b>2,335</b>	<b>2,677</b>	<b>3,023</b>	<b>3,409</b>	<b>3,731</b>	<b>4,064</b>
In 1972 dollars <sup>1</sup> .....	1,733	2,230	2,611	2,569	2,677	2,687	2,736	2,799	2,856
Basic research.....	1,003	1,303	1,650	1,796	2,022	2,153	2,408	2,647	2,788
Applied research.....	232	328	404	427	544	737	852	1,015	1,067
Development.....	41	83	95	112	110	133	149	168	209
Source of funds:									
Federal Government.....	917	1,261	1,572	1,648	1,839	2,032	2,288	2,501	2,717
State and local governments.....	132	156	172	219	270	327	352	386	376
Institutions' own funds.....	103	147	218	243	306	351	398	435	518
Foundations and voluntary health agencies.....	61	77	95	110	128	142	168	183	192
Industry and other.....	62	74	91	115	134	172	204	226	262
Field of science:									
Engineering.....	162	259	309	319	347	348	382	433	499
Physical sciences <sup>2</sup> .....	217	287	320	307	330	334	351	379	427
Astronomy.....	16	23	24	19	22	24	27	26	32
Chemistry.....	70	88	105	102	110	116	121	140	164
Physics.....	120	159	173	162	162	169	174	183	201
Environmental sciences.....	55	68	120	125	192	235	255	287	317
Math. and computer sciences.....	33	42	58	72	71	77	85	87	106
Life sciences <sup>2</sup> .....	682	872	1,037	1,194	1,353	1,632	1,900	2,099	2,257
Biological and agricultural.....	315	422	491	547	682	858	1,013	1,122	1,234
Clinical medical.....	320	300	477	549	605	716	812	896	948
Psychology.....	32	40	59	59	70	74	80	77	83
Social sciences and other.....	96	146	245	257	313	324	355	309	376

<sup>1</sup> Based on GNP implicit price deflator. <sup>2</sup> Includes sciences not shown separately.

Source: U.S. National Science Foundation, *Expenditures for Scientific Activities at Universities and Colleges* annual; and unpublished data.

# **No. 1053. SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT, BY SECTOR: 1954 TO 1979**

[In thousands of full-time equivalent employees. Yearly averages for industry sector only. Excludes those employed by State and local government agencies, except as noted]

SECTOR	1954	1961	1965	1970	1974	1975	1976	1977	1978 <sup>1</sup>	1979 <sup>1</sup>
<b>Total</b> .....	<b>237.1</b>	<b>425.7</b>	<b>494.5</b>	<b>546.5</b>	<b>525.4</b>	<b>534.8</b>	<b>549.9</b>	<b>571.1</b>	<b>595.0</b>	<b>610.0</b>
Industry (excl. social scientists) <sup>2</sup> .....	164.1	312.0	348.4	375.5	359.5	362.6	372.4	390.1	410.0	421.0
Universities and colleges, total.....	25.0	42.4	53.4	68.5	65.5	70.2	72.4	75.0	77.5	80.0
Scientists and engineers.....	20.3	33.6	40.4	50.3	48.0	51.6	53.5	54.9	57.0	59.0
Graduate students.....	4.7	8.8	13.0	18.2	17.5	18.6	18.9	20.1	20.5	21.0
Federal Government (incl. DOD).....	37.7	51.1	61.8	69.8	65.0	64.5	65.3	64.5	65.0	65.5
University-associated federally funded R & D centers.....	5.0	9.1	11.1	11.5	12.1	12.7	13.4	14.0	14.5	15.0
Other nonprofit institutions <sup>2</sup> .....	5.3	11.1	19.9	21.2	23.3	24.8	26.4	27.5	28.0	28.5

<sup>1</sup> Estimated. <sup>2</sup> Includes professional R & D personnel employed at FFRDC's administered by industry and other nonprofit institutions. <sup>3</sup> Includes estimate for R&D scientists and engineers employed in State-affiliated institutions.

Source: U.S. National Science Foundation, *National Patterns of R & D Resources—Funds and Personnel in the United States, 1953-1979*.

# **No. 1054. NOBEL PRIZE LAUREATES IN CHEMISTRY, PHYSICS, AND PHYSIOLOGY/ MEDICINE—SELECTED COUNTRIES: 1901 TO 1978**

[Presented by location of award-winning research and by date of award]

COUNTRY	1901-1978, total	1901-1915	1916-1930	1931-1945	1946-1960	1961-1978	1901-1978		
							Physics	Chemistry	Physiology/ Medicine
<b>Total</b> .....	<b>327</b>	<b>52</b>	<b>41</b>	<b>49</b>	<b>74</b>	<b>111</b>	<b>112</b>	<b>91</b>	<b>124</b>
United States.....	114	3	3	14	38	56	41	21	52
United Kingdom.....	62	7	8	11	14	22	21	22	19
West Germany <sup>1</sup> .....	50	15	12	11	4	8	14	24	12
France.....	20	10	3	2	—	5	8	6	6
U.S.S.R.....	10	2	—	—	4	4	7	1	2
Other countries.....	71	15	15	11	14	16	21	17	33

— Represents zero. <sup>1</sup> Includes East Germany before 1946.

Source: U.S. National Science Foundation, *Science Indicators*, 1976; and unpublished data.

**NO. 1055. SCIENTISTS AND ENGINEERS, BY FIELD, EMPLOYMENT STATUS, AND SEX:  
1974 TO 1978**

(In thousands, except percent. Represents the total science and engineering population in the United States)

FIELD	1974			1976			1978			
	Total		In labor force	Total		In labor force	Total		In labor force	Out-side labor force <sup>1</sup>
	Number	Percent female		Number	Percent female		Number	Percent female		
<b>Total, all fields.....</b>	<b>2,482</b>	<b>8.7</b>	<b>2,288</b>	<b>2,706</b>	<b>9.2</b>	<b>2,452</b>	<b>2,741</b>	<b>10.8</b>	<b>2,508</b>	<b>237</b>
Engineers, total.....	1,292	.5	1,228	1,375	.6	1,268	1,396	1.6	1,285	111
Scientists, total.....	1,190	(NA)	1,058	1,330	(NA)	1,182	1,347	(NA)	1,224	126
Physical scientists.....	248	8.4	207	281	9.4	237	255	8.9	217	38
Chemists.....	166	9.8	137	186	11.2	157	174	10.9	147	27
Physicists/astonomers.....	63	3.8	54	70	3.8	61	62	3.6	52	9
Other physical scientists.....	19	10.4	15	20	12.3	19	19	8.0	18	2
Mathematical scientists.....	101	19.8	84	110	20.8	92	108	18.4	90	18
Mathematicians.....	89	19.6	74	98	20.8	82	97	18.3	82	15
Statisticians.....	12	21.0	10	13	20.8	11	11	19.6	8	3
Computer specialists.....	170	20.4	167	179	20.2	173	238	18.0	235	3
Environmental scientists.....	79	6.7	71	86	7.5	77	81	10.7	74	7
Earth scientists.....	74	7.0	67	80	7.9	72	71	12.1	.65	6
Oceanographers.....	2	( <sup>2</sup> )	1	2	( <sup>2</sup> )	2	2	( <sup>2</sup> )	1	( <sup>2</sup> )
Atmospheric scientists.....	4	2.8	3	4	2.4	3	8	( <sup>2</sup> )	9	( <sup>2</sup> )
Life scientists.....	266	19.5	243	314	19.4	286	328	22.0	296	32
Biological scientists.....	126	29.2	112	140	29.3	124	154	27.9	133	21
Agricultural scientists.....	97	1.8	90	129	4.3	118	130	6.7	120	10
Medical scientists.....	43	31.3	42	46	31.3	45	44	47.4	43	1
Psychologists.....	109	21.1	94	123	24.6	106	132	27.3	123	8
Social scientists.....	217	24.4	192	237	24.4	211	205	20.6	189	20
Economists.....	56	6.3	48	60	6.9	52	59	11.2	53	6
Sociologists/anthropologists.....	46	38.1	36	51	37.9	42	45	34.6	40	5
Other social scientists.....	115	27.3	108	127	27.4	117	102	19.9	96	6

NA Not available.

<sup>1</sup> Includes those not employed or not seeking employment, such as retirees.

<sup>2</sup> Too few cases to estimate.

**NO. 1056. CHARACTERISTICS OF SCIENTISTS AND ENGINEERS: 1976**

(Represents the total science and engineering population in the United States)

CHARACTERISTIC	Total	Eng- neers	Phys- ical scien- tists,	Math- emat- ical special- ists	Com- puter special- ists	Envi- ron- men- tal scien- tists	Life scien- tists	Psy- cholo- gists	Social scien- tists
Total.....1,000	2,706	1,375	281	110	179	86	314	123	237
	PERCENT DISTRIBUTION								
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male.....	90.8	99.4	90.6	79.2	79.8	92.5	80.6	75.4	75.6
Female.....	9.2	.6	9.4	20.8	20.2	7.5	19.4	24.6	24.4
Under 30 years.....	30.0	22.6	35.4	34.1	35.2	32.2	46.5	38.4	33.8
30-39 years.....	27.6	24.8	29.1	31.4	32.3	33.6	22.5	30.0	24.7
40-49 years.....	19.1	22.8	16.5	19.9	9.8	16.6	13.1	15.9	17.2
50-59 years.....	15.9	19.8	12.7	10.4	2.3	13.9	13.1	6.4	19.1
60 and over.....	7.5	10.0	6.3	4.1	.3	3.8	4.8	9.4	5.1
Highest degree:									
Doctorate.....	10.6	3.2	20.9	13.4	3.0	14.9	23.5	27.5	18.2
Master's.....	24.1	17.9	23.7	46.5	20.2	21.8	20.9	48.3	47.1
Bachelor's.....	62.4	74.8	54.6	37.6	76.7	63.2	51.5	24.1	34.6
Other.....	2.9	4.1	.7	2.5	.1	(B)	4.0	(B)	.1
Type of employer:									
Business, industry.....	60.3	77.4	47.8	38.1	73.1	54.0	36.8	19.1	22.2
Educational institutions.....	15.6	3.5	23.8	39.2	8.0	14.8	31.0	43.9	42.5
Nonprofit organizations.....	4.0	1.4	4.8	3.5	2.1	2.7	8.5	18.4	8.2
Federal Government.....	8.6	7.9	10.0	9.9	8.3	14.8	9.2	5.5	10.1
Military.....	.8	.8	.6	.9	.9	1.6	.6	.4	.6
Other government.....	6.7	5.0	6.2	6.8	3.8	7.8	10.4	7.4	14.5
Other.....	3.9	3.9	6.7	1.6	3.8	4.3	3.5	5.2	1.9

B Base too small to calculate percent.

Source of tables 1055 and 1056: U.S. National Science Foundation, *U.S. Scientists and Engineers: 1974* (NSF 76-329); *Detailed Statistical Tables, U.S. Scientists and Engineers: 1976* (NSF 79-305); and 1978 (NSF forthcoming report).

# **NO. 1057. RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS—AVERAGE FULL-TIME-EQUIVALENT AND COST, BY INDUSTRY AND SOURCE OF SUPPORT: 1970 TO 1977**

[In thousands. Data for 1970 on man-years basis; thereafter, on average full-time-equivalent (FTE) basis. See *Historical Statistics, Colonial Times to 1970*, series W 167, for total cost per scientist or engineer]

INDUSTRY	1970			1975			1977		
	Total	Private industry	Federal Govt.	Total	Private industry	Federal Govt.	Total	Private industry	Federal Govt.
<b>Average FTE of scientists and engineers</b> .....	369.9	231.4	138.5	360.6	254.0	106.6	391.2	275.1	116.2
Chemicals and allied products.....	42.2	38.7	3.5	45.7	43.0	2.7	47.4	44.7	2.6
Machinery.....	43.1	36.0	7.2	43.2	38.2	5.0	56.6	48.6	8.0
Electrical equip. and communication.....	97.7	50.7	47.0	93.7	55.5	38.2	84.8	49.0	35.8
Motor vehicle and other transport equip.....	24.2	19.5	4.7	(NA)	(NA)	(NA)	29.2	25.5	3.8
Aircraft and missiles.....	83.0	20.4	62.6	68.1	21.4	46.7	74.7	23.6	51.0
Other industries.....	79.7	66.1	13.5	83.2	73.3	10.2	98.5	83.7	15.0
<b>Cost per scientist or engineer</b> .....dol.....	48.3	22.9	56.2	65.3	53.2	82.2	76.4	70.4	90.7
Chemicals and allied products.....	42.9	42.0	53.7	58.0	56.0	87.0	69.0	66.5	113.1
Machinery.....	40.1	40.1	39.2	61.6	59.8	73.8	70.1	69.8	72.1
Electrical equip. and communication.....	44.3	40.7	48.1	59.0	54.3	65.6	70.2	66.4	75.3
Motor vehicle and other transport equip.....	61.0	63.2	51.7	(NA)	(NA)	(NA)	113.0	(NA)	(NA)
Aircraft and missiles.....	62.3	54.3	65.0	84.1	56.1	96.2	98.4	67.0	107.8
Other industries.....	42.0	39.4	55.0	55.3	52.4	75.5	63.2	(NA)	(NA)

NA Not available.

Source: U.S. National Science Foundation, *Research and Development in Industry*, annual.

# **NO. 1058. EMPLOYMENT OF NATURAL SCIENTISTS AND ENGINEERS IN PRIVATE INDUSTRY, BY OCCUPATION AND MAJOR INDUSTRIAL SECTOR: 1977**

[In thousands]

OCCUPATION	Total	Manufacturing	Non-manufacturing	OCCUPATION	Total	Manufacturing	Non-manufacturing
<b>Total</b> .....	1,226	632	594	Physical scientists.....	114	62	52
<b>Engineers</b> .....	920	510	410	Chemists.....	72	55	17
Chemical.....	47	33	14	Physicists.....	11	3	8
Civil, sanitary.....	80	9	71	Geologists.....			
Electrical.....	264	144	120	geophysicists.....	24	2	22
Industrial.....	96	66	30	Other.....	8	3	5
Metallurgical.....	12	9	3	Life scientists.....	46	14	32
Mechanical, aeronautical.....	221	150	71	Mathematical scientists.....	28	9	19
Petroleum.....	13	1	12	Computer scientists.....	118	38	80
Other.....	188	98	90				

Source: U.S. National Science Foundation, *Science Resource Studies Highlights*, NSF 79-307; and unpublished data.

# **NO. 1059. EMPLOYMENT OF SCIENCE AND ENGINEERING TECHNICIANS IN PRIVATE INDUSTRY, BY OCCUPATION AND MAJOR INDUSTRIAL SECTOR: 1977**

OCCUPATION	Total (1,000)	Percent distribution	Percent manufacturing	INDUSTRY	Total (1,000)	Percent distribution
<b>Technicians, total</b> .....	1,032	100.0	43.2	Mining.....	24	2.3
<b>Engineering technicians</b> .....	780	75.6	41.8	Construction.....	49	4.8
Drafts.....	269	26.1	39.8	Manufacturing.....	446	43.2
Electrical and electronic technicians.....	314	30.4	34.1	Transportation, communications, public utilities.....	92	8.9
Other technicians.....	197	19.1	56.9	Wholesale and retail trade.....	125	12.2
Science technicians.....	105	10.2	66.7	Finance, insurance, and real estate.....	30	2.9
Computer programmers.....	146	14.2	34.2	Services.....	265	25.7

Source: U.S. National Science Foundation, *Science Resource Studies Highlights*, NSF 79-307.



# NO. 1060. SCIENTISTS AND ENGINEERS—EMPLOYMENT IN INSTITUTIONS OF HIGHER EDUCATION, BY FIELD: 1965 TO 1978

[In thousands. As of January. Includes full-time and part-time personnel. Excludes graduate students who receive stipends for part-time services as scientists or engineers. R and D = research and development]

FIELD	1965	1971	1975	1976	1977	1978	FIELD	1965	1971	1975	1976	1977	1978
<b>Total</b> .....	<b>189.9</b>	<b>269.2</b>	<b>291.4</b>	<b>301.5</b>	<b>311.2</b>	<b>321.3</b>	<b>Math. and computer scientists</b> .....	13.7	24.5	28.4	29.9	32.0	32.9
Universities, colleges.....	178.9	257.9	278.9	288.2	297.3	306.5	Life scientists.....	75.8	110.3	113.5	114.5	117.4	122.5
Teaching staff.....	122.0	185.0	215.0	222.8	228.7	235.4	Agricultural.....	13.5	18.0	14.3	14.2	14.2	14.9
Engineers <sup>1</sup> .....	21.7	27.1	27.9	28.5	29.9	30.9	Biological.....	24.3	31.8	38.2	40.0	42.7	43.4
Aeronautical.....	1.1	1.5	1.1	1.1	1.1	1.1	Medical.....	38.0	60.4	61.0	60.4	60.5	64.2
Chemical.....	1.6	1.8	1.9	1.9	1.9	2.0	Psychologists.....	9.4	16.8	21.6	22.9	23.7	23.7
Civil.....	3.1	4.1	4.9	5.0	5.2	5.3	Social scientists <sup>1</sup> .....	32.9	43.2	48.7	52.4	53.1	54.2
Electrical.....	5.5	6.9	6.8	6.9	6.9	7.2	Economists.....	7.9	11.3	12.7	13.1	13.8	14.0
Mechanical.....	4.1	5.4	5.3	5.3	5.5	5.7	Sociologists.....	6.3	11.3	14.2	15.2	15.5	15.3
Phy. and environmental science <sup>1</sup> .....	25.5	35.9	38.7	39.9	41.3	42.2	Political science.....	5.9	8.9	10.6	11.4	11.2	11.3
Chemists.....	10.7	14.7	16.1	16.6	17.1	17.6	Federally funded R and D centers.....	11.0	11.3	12.5	13.3	13.9	14.8
Earth scientists.....	4.0	6.5	6.0	6.5	6.9	6.9	Engineers.....	5.0	5.1	5.9	6.0	6.4	6.6
Physicists.....	9.1	12.2	12.3	12.2	12.5	12.8	Scientists <sup>2</sup> .....	6.0	6.2	6.6	7.4	7.6	8.2

<sup>1</sup> Includes other engineers or scientists not shown separately. <sup>2</sup> Includes statisticians.

# NO. 1061. FULL-TIME SCIENTISTS AND ENGINEERS EMPLOYED IN UNIVERSITIES AND COLLEGES, BY FIELD OF EMPLOYMENT, AND SEX: 1975 TO 1978

[In thousands, except percent. As of January. Excludes graduate students who receive stipends for part-time services as scientists or engineers. Excludes federally funded research and development centers]

FIELD OF EMPLOYMENT	1975	1977	1978		FIELD OF EMPLOYMENT	1975	1977	1978	
			Total	Per cent male				Total	Per cent male
<b>Total</b> .....	<b>223.3</b>	<b>235.9</b>	<b>241.1</b>	<b>84.0</b>	<b>Mathematicians<sup>2</sup></b> .....	22.4	23.9	24.3	85.8
Physical sciences.....	26.7	27.5	27.9	91.2	Social sciences.....	38.2	41.0	41.6	81.8
Chemistry.....	13.8	14.5	14.7	88.3	Economics.....	10.2	10.7	10.8	91.0
Physics.....	10.9	11.1	11.3	95.8	Sociology.....	10.7	11.6	11.4	73.6
Other.....	1.9	2.0	1.9	87.2	Political science.....	8.7	9.0	9.0	88.1
Environ. scientists <sup>1</sup> .....	6.8	8.0	8.1	93.1	Other.....	8.6	9.7	10.4	75.9
Life sciences.....	90.7	94.2	97.2	79.7	Engineer.....	22.6	23.9	24.6	97.6
Agricultural.....	13.2	12.9	13.6	91.0	Aeronautical <sup>2</sup> .....	.9	1.0	1.0	98.1
Biological.....	33.5	36.9	37.4	79.3	Chemical.....	1.6	1.7	1.7	98.1
Medical.....	44.0	44.4	46.2	76.7	Civil.....	3.8	4.1	4.2	97.0
Psychology.....	16.0	17.3	17.4	75.2	Electrical.....	5.4	5.5	5.6	98.4
					Mechanical.....	4.4	4.5	4.5	98.7
					Other.....	6.5	7.2	7.6	96.5

<sup>1</sup> Includes atmospheric scientists and oceanographers.

<sup>2</sup> Includes computer scientists. <sup>3</sup> Includes astronautical.

Source of tables 1060 and 1061: U.S. National Science Foundation, *Human Resources for Scientific Activities at Universities and Colleges*, annual.

# NO. 1062. PROFESSIONAL SCIENTIFIC, ENGINEERING, AND TECHNICAL PERSONNEL IN THE FEDERAL GOVERNMENT, BY OCCUPATIONAL GROUP: 1966 TO 1977

[In thousands, except percent. 1966 data as of December, all other years as of October]

OCCUPATIONAL GROUP	1966	1970	1975	1976	1977	PERCENT FEMALE				
						1966	1970	1975	1976	1977
<b>Total</b> .....	<b>192.7</b>	<b>206.2</b>	<b>221.9</b>	<b>226.4</b>	<b>229.2</b>	<b>16.6</b>	<b>16.4</b>	<b>19.7</b>	<b>20.3</b>	<b>20.8</b>
Scientific personnel.....	71.5	77.2	77.3	78.7	81.4	7.8	8.0	8.8	9.4	9.8
Physical sciences.....	27.3	29.8	27.1	27.1	27.1	6.4	6.4	6.6	7.0	7.3
Mathematics and statistics.....	7.3	8.6	10.0	10.4	10.6	20.0	17.4	15.9	16.8	16.7
Life sciences.....	26.0	26.9	26.4	27.0	28.3	3.7	4.1	5.1	5.8	6.1
Social sciences <sup>1</sup> .....	5.8	6.6	8.0	8.3	9.1	14.5	16.2	17.6	18.4	19.4
Geography and cartography.....	3.2	3.3	2.9	3.0	3.3	8.6	8.5	7.9	8.4	9.2
Psychology.....	1.9	2.2	2.9	3.0	3.0	14.6	13.7	14.6	14.4	15.1
Engineering personnel.....	76.8	83.0	86.6	87.0	87.8	.5	.5	.7	.5	.9
Health professional personnel.....	44.3	46.0	58.0	60.7	59.9	58.8	59.2	62.7	62.3	65.1
Health officers.....	13.1	13.0	13.4	14.1	11.7	4.7	5.5	7.8	8.3	9.8

<sup>1</sup> Includes community planning.

Source: U.S. National Science Foundation. Compiled from data supplied by the U.S. Office of Personnel Management (formerly the U.S. Civil Service Commission).

# **NO. 1063. SALARIES OF PROFESSIONAL, SCIENTIFIC, AND TECHNICAL PERSONNEL IN THE FEDERAL GOVERNMENT, BY OCCUPATIONAL FIELD, BY SEX: 1970 TO 1977**

[In thousands of dollars. Mean annual salaries as of October; for definition of mean, see p. xlii]

OCCUPATIONAL FIELD	ALL PERSONNEL				MALE			FEMALE		
	1970	1975	1976	1977	1970	1975	1977	1970	1975	1977
Engineering.....	17.8	24.2	25.8	27.8	17.8	24.2	27.9	15.5	19.2	21.4
Health officers.....	19.5	28.6	30.6	38.2	19.3	28.4	38.2	21.3	31.0	38.8
Nursing personnel.....	10.0	14.7	15.4	16.6	10.9	14.2	15.7	10.0	14.7	16.7
Scientific personnel.....	16.3	22.5	23.8	25.7	16.5	22.8	26.2	14.0	19.1	21.5
Physical sciences.....	17.8	24.4	25.9	28.3	18.1	24.8	28.8	13.6	19.2	21.7
General physical.....	20.5	28.1	29.8	34.0	20.7	28.3	34.5	15.0	21.7	23.7
Chemistry.....	16.0	22.5	23.7	25.6	16.5	23.1	26.4	13.4	18.9	21.4
Physics.....	17.8	25.5	27.3	29.8	17.9	25.6	29.9	15.7	21.0	24.4
Life sciences.....	14.3	20.0	21.2	22.7	14.3	20.1	22.9	13.0	17.5	19.4
General biological sciences.....	15.9	21.0	22.3	24.2	16.6	21.7	25.1	12.2	17.0	19.5
Agricultural sciences.....	13.2	18.6	19.6	21.0	13.2	18.6	21.1	14.9	16.2	15.8
Animal sciences.....	17.3	23.5	25.1	27.4	17.4	23.8	27.8	14.5	19.4	22.3
Microbiology.....	15.6	21.0	22.1	24.0	16.6	22.3	25.7	13.1	17.9	20.3
Plant sciences.....	14.5	20.8	21.7	23.6	14.5	21.0	23.9	12.5	17.5	18.5
Mathematics.....	15.5	22.0	23.5	25.6	15.8	22.5	26.3	14.1	19.4	22.4
Statistics.....	16.7	22.5	23.4	25.3	17.3	23.3	26.3	14.5	19.7	21.7
Social sciences.....	17.8	23.4	24.9	26.8	18.3	24.2	27.9	15.0	20.0	22.6
Economics.....	18.0	23.6	25.2	27.4	18.3	24.2	28.2	15.2	19.7	22.4
Geography and cartography.....	13.9	19.8	20.9	22.3	14.1	20.0	22.7	12.4	17.4	19.0
Psychology.....	18.2	23.9	25.5	27.8	18.5	24.5	28.4	15.9	20.5	24.2

Source: U.S. National Science Foundation, unpublished data. Compiled from data supplied by U.S. Office of Personnel Management (formerly the U.S. Civil Service Commission).

# **NO. 1064. SCIENTISTS, ENGINEERS, AND PHYSICIANS ADMITTED AS IMMIGRANTS, BY OCCUPATION: 1967 TO 1977**

[For years ending June 30 except, beginning 1977, ending Sept. 30. Includes professors and instructors]

OCCUPATION	1967-1970, total	1971-1977, total	1970	1972	1973	1974	1975	1976	1977
Scientists and engineers.....	49,088	59,271	13,337	11,323	6,632	5,969	6,931	7,495	7,819
Engineers <sup>1</sup> .....	34,589	39,745	9,305	7,436	4,443	3,866	4,648	5,146	5,191
Chemical.....	2,974	3,776	908	791	438	333	438	446	470
Civil.....	4,305	6,336	1,509	1,461	700	575	694	697	543
Electrical.....	5,368	6,041	1,464	1,305	661	543	676	754	680
Mechanical.....	5,743	6,873	1,618	1,470	829	627	845	823	676
Natural scientists <sup>1</sup> .....	12,133	15,097	3,264	3,271	1,790	1,422	1,602	1,663	1,893
Agricultural scientists <sup>2</sup> .....	1,057	2,402	320	518	388	250	305	212	269
Biologists, medical scientists.....	1,389	2,384	338	527	309	222	238	268	325
Chemists.....	5,650	6,386	1,495	1,372	711	592	676	678	752
Physicists.....	1,726	1,289	401	325	118	113	137	152	148
Social scientists.....	2,366	4,429	768	616	399	681	681	686	735
Physicians and surgeons.....	12,896	43,165	3,155	7,143	7,119	4,537	5,361	6,184	7,073

<sup>1</sup> Includes occupations not shown separately. <sup>2</sup> Includes foresters and conservationists.

Source: U.S. National Science Foundation, *Scientists, Engineers, and Physicians From Abroad*, annual through 1975; unpublished data thereafter. Data from U.S. Immigration and Naturalization Service.

# **NO. 1065. GRADUATE SCIENCE STUDENTS IN DOCTORATE-GRANTING INSTITUTIONS, BY FIELD AND LEVEL OF STUDY: 1975 TO 1977**

[In thousands. As of fall. Includes outlying areas]

FIELD OF SCIENCE	TOTAL STUDENTS						FULL-TIME STUDENTS					
	First-year			Beyond first-year			First-year			Beyond first-year		
	1975	1976	1977	1975	1976	1977	1975	1976	1977	1975	1976	1977
Total.....	111.7	108.1	113.7	181.9	189.3	193.0	79.3	78.1	80.4	131.3	135.8	137.8
Engineering.....	29.8	27.9	29.4	36.2	37.5	38.7	16.8	16.0	16.3	20.9	20.8	21.5
Physical sciences.....	6.8	6.9	6.9	17.6	17.9	17.8	5.9	6.0	6.1	15.3	15.6	15.6
Environ. sciences.....	3.5	3.4	3.4	6.9	7.4	7.7	3.0	3.0	3.1	5.5	5.9	6.2
Math. sciences.....	8.1	7.5	7.7	12.2	13.0	12.3	5.2	4.9	5.0	8.4	9.0	8.5
Lifesciences.....	28.2	29.0	31.2	44.8	47.4	51.1	23.0	23.4	24.1	36.4	38.3	40.2
Psychology.....	7.7	7.5	7.5	19.3	20.7	20.3	5.7	6.0	5.9	13.9	15.4	15.2
Social sciences.....	27.6	25.9	27.6	44.9	45.4	45.1	19.6	18.7	19.8	31.0	30.8	30.7

Source: U.S. National Science Foundation, *Survey of Graduate Science Student Support and Postdoctorals*, annual.

No. 1066. DOCTORATES CONFERRED, 1970 TO 1978, AND SELECTED FIELDS, 1978, BY CHARACTERISTICS

CHARACTERISTIC	ALL FIELDS <sup>1</sup>			1978					
	1970	1975	1977	Total <sup>1</sup>	Physical sciences <sup>2</sup>	Engineering	Biological sciences <sup>3</sup>	Psychology	Social sciences <sup>4</sup>
Doctorates conferred.....	29,475	32,913	31,672	30,850	4,193	2,423	3,192	3,049	2,661
Percent with master's degree.....	78.6	81.3	81.3	81.4	62.8	90.2	53.7	76.1	84.1
Percent distribution.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Male.....	86.5	78.1	75.2	73.1	89.5	97.8	74.5	63.2	78.3
Female.....	13.5	21.9	24.8	26.9	10.5	2.2	25.5	36.8	23.7
White.....	(NA)	79.8	78.7	76.3	73.2	61.2	(NA)	(NA)	(NA)
Black and other.....	(NA)	12.1	14.1	15.5	18.2	31.4			
Not reported.....	(NA)	8.1	7.3	8.2	8.6	7.4			
U.S. citizens.....	84.2	82.1	82.1	81.6	76.3	52.0	84.8	89.7	78.0
Foreign citizens.....	14.0	15.9	15.2	15.4	21.5	45.1	12.6	3.7	18.8
Citizenship unknown.....	1.6	2.0	2.7	2.9	2.2	3.0	2.7	6.6	3.2
Median age at award <sup>5</sup> ..... years.....	30.7	31.5	31.6	31.7	29.3	30.2	29.5	30.1	31.8
Median time, <sup>5</sup> baccalaureate to doctorate: Total time..... years.....	7.9	8.6	8.7	8.9	7.0	7.5	7.0	7.4	8.9
Registered time..... years.....	5.6	5.9	6.1	6.1	5.7	5.6	5.8	5.7	6.4

NA Not available. <sup>1</sup> Includes other fields, not shown separately. <sup>2</sup> Astronomy, physics, chemistry, earth sciences, and mathematics. <sup>3</sup> Biochemistry, botany, microbiology, physiology, zoology, and related fields. <sup>4</sup> Anthropology, sociology, economics, political science, public administration, and international relations. <sup>5</sup> For definition of median, see Guide to tabular presentation.

Source: U.S. National Science Foundation. Data from National Research Council, *Summary Report, 1978: Doctorate Recipients from United States Universities*.

No. 1067. SCIENCE DOCTORATES CONFERRED AND ENROLLMENT FOR ADVANCED DEGREES: 1965 TO 1978

[Doctorates conferred, years ending June 30 except, beginning 1977, ending Sept. 30; enrollment as of fall term. See also *Historical Statistics, Colonial Times to 1970*, series H 767-771, 774, and 776-780]

FIELD OF SCIENCE	1965	1970	1973	1974	1975	1976	1977	1978
Science doctorates conferred.....	10,477	17,731	18,948	18,316	18,352	17,872	17,373	17,034
Life sciences.....	2,539	4,163	4,489	4,303	4,402	4,350	4,265	4,361
Biological sciences.....	1,963	3,360	3,636	3,473	3,498	3,562	3,484	3,508
Agricultural sciences <sup>1</sup> .....	576	803	853	830	904	788	782	853
Physical sciences.....	2,865	4,400	4,101	3,800	3,749	3,572	3,410	3,234
Chemistry.....	1,444	2,234	1,849	1,792	1,762	1,623	1,570	1,545
Physics and astronomy.....	1,046	1,655	1,590	1,334	1,293	1,235	1,149	1,066
Earth, environmental, and marine sciences.....	375	511	662	674	694	714	691	623
Social sciences.....	1,361	2,626	3,354	3,286	3,344	3,278	3,137	3,008
Economics.....	535	826	907	833	867	854	809	778
Sociology.....	239	504	599	645	680	734	725	610
Anthropology.....	82	217	324	351	385	428	386	399
Other social sciences <sup>2</sup> .....	502	1,079	1,524	1,427	1,412	1,262	1,217	1,221
Psychology.....	954	1,888	2,444	2,587	2,749	2,878	2,960	3,049
Engineering.....	2,073	3,432	3,338	3,144	2,959	2,791	2,641	2,423
Mathematics.....	685	1,222	1,222	1,196	1,149	1,003	959	959
Graduate enrollment, all fields.....1,000.....	535.3	816.2	908.1	965.0	1,053.8	1,030.0	(NA)	(NA)
Science fields.....1,000.....	195.3	252.2	244.4	250.7	261.5	258.2		
Percent of total.....	36.5	30.9	26.9	26.0	24.8	25.1		
Engineering <sup>3</sup> .....1,000.....	57.5	64.8	54.6	56.0	59.3	57.3		
Social sciences <sup>4</sup> .....1,000.....	30.0	45.0	45.2	45.6	46.3	44.2		
Biological sciences.....1,000.....	28.3	37.6	40.8	43.4	45.5	45.4		
Physical sciences.....1,000.....	36.5	40.1	36.0	34.9	35.5	36.1		
Psychology.....1,000.....	15.6	25.3	30.9	32.8	35.3	35.4		
Mathematical subjects <sup>5</sup> .....1,000.....	21.0	30.6	27.0	27.1	27.0	26.8		
Agriculture and forestry <sup>1</sup> .....1,000.....	6.4	8.7	9.9	10.8	12.6	13.1		
Health fields.....1,000.....	8.9	14.2	27.3	30.4	35.5	38.1		
All other fields.....1,000.....	331.1	549.8	636.5	683.9	756.8	733.7		

NA Not available. <sup>1</sup> Excludes agricultural economics. <sup>2</sup> Includes econometrics, statistics, geography, political science and public administration, history and philosophy of science, archeology, linguistics, and agricultural economics. <sup>3</sup> Includes interdisciplinary studies; excludes engineering technologies. <sup>4</sup> Includes agricultural economics, anthropology, archeology, demography, economics, geography, linguistics, political science and government, and sociology. <sup>5</sup> Includes computer and information sciences.

Source: U.S. National Science Foundation. Data from National Research Council, *Doctorate Record File*; and U.S. National Center for Education Statistics, *Enrollment for Masters and Higher Degrees*, annual.

# No. 1068. DOCTORAL SCIENTISTS AND ENGINEERS, BY STATES: 1977

[Includes doctoral scientists receiving their degrees between 1934 and June 1977]

STATE	Total	Natural scientists	Social scientists	Engineers	STATE	Total	Natural scientists	Social scientists	Engineers
<b>Total</b> -----	<b>303,267</b>	<b>175,161</b>	<b>81,567</b>	<b>46,539</b>	Mo.-----	5,136	3,124	1,230	782
Ala.-----	3,013	1,714	830	469	Mont.-----	981	687	206	88
Alaska-----	510	363	108	39	Nebr.-----	1,670	1,146	364	160
Ariz.-----	3,261	1,761	946	554	Nev.-----	556	260	227	69
Ark.-----	1,306	803	437	65	N.H.-----	1,149	638	406	105
Calif.-----	36,075	19,469	9,968	6,638	N.J.-----	12,016	7,247	2,148	2,621
Colo.-----	6,201	3,684	1,641	876	N. Mex.-----	3,813	2,525	366	922
Conn.-----	5,260	2,898	1,575	787	N.Y.-----	29,563	16,457	9,513	3,593
Del.-----	3,288	2,461	253	574	N.C.-----	6,003	3,795	1,623	585
D.C.-----	10,353	4,905	4,114	1,334	N. Dak.-----	779	485	190	104
Fla.-----	6,812	3,723	2,090	999	Ohio-----	12,608	7,111	3,065	2,432
Ga.-----	4,351	2,703	1,224	424	Okl.-----	2,690	1,620	580	490
Hawaii-----	1,350	847	439	64	Oreg.-----	3,314	2,107	972	235
Idaho-----	1,199	714	241	244	Pa.-----	15,787	8,542	4,166	3,079
Ill.-----	14,264	7,966	4,166	2,132	R.I.-----	1,370	797	444	129
Ind.-----	5,989	3,529	1,591	849	S.C.-----	2,489	1,512	644	333
Iowa-----	2,932	1,828	780	324	S. Dak.-----	679	448	181	60
Kans.-----	2,705	1,414	1,037	254	Tenn.-----	4,775	3,026	1,026	723
Ky.-----	2,696	1,557	919	219	Tex.-----	14,592	8,768	3,112	2,712
La.-----	3,368	2,271	584	513	Utah-----	2,581	1,415	623	543
Maine-----	1,252	651	439	162	Vt.-----	830	482	257	61
Md.-----	10,696	7,310	2,088	1,298	Va.-----	8,208	4,523	2,127	1,558
Mass.-----	13,062	7,369	3,633	2,060	Wash.-----	5,792	3,152	1,662	948
Mich.-----	10,521	5,974	2,958	1,589	W. Va.-----	1,613	1,098	317	198
Minn.-----	5,119	3,311	1,414	394	Wis.-----	5,553	3,145	1,619	789
Miss.-----	1,777	1,029	526	222	Wyo.-----	694	388	244	62
					Other areas--	688	409	224	65

Source: U.S. National Science Foundation, 1977 *Characteristics of Doctoral Scientists and Engineers in the United States*. Data derived from the Doctoral Roster of Scientists and Engineers.

# No. 1069. FEDERAL SPACE PROGRAM—OUTLAYS, BY AGENCY: 1960 TO 1979

[Through 1976, for years ending June 30, thereafter, years ending Sept. 30. NASA=National Aeronautics and Space Administration]

YEAR	Total <sup>1</sup> (mil. dol.)	NASA <sup>2</sup>		Dept. of De- fense (mil. dol.)	Dept. of En- ergy <sup>3</sup> (mil. dol.)	YEAR	Total <sup>1</sup> (mil. dol.)	NASA <sup>2</sup>		Dept. of De- fense (mil. dol.)	Dept. of En- ergy <sup>3</sup> (mil. dol.)
		Total (mil. dol.)	Per- cent of total					Total (mil. dol.)	Per- cent of total		
1960-----	888	329	37.0	518	41	1970-----	5,453	3,565	65.4	1,756	103
1961-----	1,468	604	47.3	710	64	1971-----	4,999	3,171	63.4	1,693	97
1962-----	2,387	1,226	51.4	1,029	130	1972-----	4,772	3,195	67.0	1,470	60
1963-----	4,079	2,517	61.7	1,383	181	1973-----	4,719	3,069	65.0	1,557	51
1964-----	5,900	4,101	69.5	1,564	220	1974-----	4,854	2,960	61.0	1,777	39
1965-----	6,856	5,005	73.0	1,592	232	1975-----	4,891	2,953	60.4	1,829	34
1966-----	7,689	5,828	75.8	1,637	188	1976-----	5,314	3,336	62.8	1,864	26
1967-----	7,208	5,307	73.6	1,673	184	1977-----	5,983	3,440	57.5	2,412	22
1968-----	6,647	4,574	68.8	1,890	146	1978, est.-----	6,484	3,622	55.9	2,714	34
1969-----	6,331	4,083	64.5	2,095	117	1979, est.-----	7,374	3,849	55.2	3,365	43

<sup>1</sup> Includes agencies not shown separately. <sup>2</sup> Excludes aircraft technology. <sup>3</sup> See footnote 2, table 1047.

Source: U.S. National Aeronautics and Space Administration, *Aeronautics and Space Report of the President*, annual. Data from U.S. Office of Management and Budget.

# No. 1070. EMPLOYMENT ON NASA PROGRAMS: 1960 TO 1980

[In thousands of employees. As of June 30. NASA=National Aeronautics and Space Administration]

YEAR	Total	NASA		YEAR	Total	NASA		YEAR	Total	NASA	
		Contractors <sup>1</sup>				Contractors <sup>1</sup>				Contractors <sup>1</sup>	
1960----	46.8	10.3	36.5	1967----	306.9	33.7	273.2	1974----	125.2	25.0	100.2
1961----	74.6	17.1	57.5	1968----	267.9	32.5	235.4	1975----	127.7	24.3	103.4
1962----	137.7	22.2	115.5	1969----	218.3	31.7	186.6	1976----	132.0	24.0	108.0
1963----	246.3	27.9	218.4	1970----	160.9	31.4	129.5	1977----	124.1	23.6	100.5
1964----	379.1	32.0	347.1	1971----	143.6	29.5	114.1	1978----	126.0	23.2	102.8
1965----	409.9	33.2	376.7	1972----	138.8	27.5	111.3	1979, est.-----	(NA)	22.8	(NA)
1966----	393.9	33.9	360.0	1973----	134.9	26.9	108.0	1980, est.-----	(NA)	22.6	(NA)

NA Not available. <sup>1</sup> Employment by private firms with contracts to perform for NASA.

Source: Aerospace Industries Association of America, Inc., Washington, D.C., *Aerospace Facts and Figures*, 1979/80 (copyright).

# NO. 1071. NATIONAL AERONAUTICS AND SPACE ADMINISTRATION—OUTLAYS FOR RESEARCH AND DEVELOPMENT: 1965 TO 1979

[In millions of dollars. Through 1976, years ending June 30; thereafter, years ending Sept. 30. Performance includes research and development, and research and program management]

YEAR	PERFORMANCE				FACILITIES			
	Total	Space flight	Space science, applications, technology	Air transport and other	Total	Space flight	Space science, applications, technology	Air transport and other
1965.....	4,562	3,138	1,126	208	531	401	73	52
1966.....	5,361	3,819	1,120	422	572	391	63	118
1967.....	5,137	3,477	1,160	500	289	172	47	70
1968.....	4,599	3,028	1,061	510	127	69	20	29
1969.....	4,187	2,764	893	540	65	27	21	17
1970.....	3,699	2,195	963	541	54	14	21	19
1971.....	3,338	1,877	926	535	44	8	6	30
1972.....	3,373	1,727	1,111	535	50	13	7	30
1973.....	3,271	1,532	1,220	519	45	5	11	29
1974.....	3,181	1,448	1,156	577	75	25	12	38
1975.....	3,181	1,500	1,076	606	85	35	9	42
1976.....	3,549	1,934	969	646	121	66	11	43
1977.....	3,840	2,195	1,002	643	105	56	4	45
1978.....	3,860	2,204	964	692	124	56	8	60
1979, est.....	4,248	2,317	1,161	770	154	54	8	92

Source: U.S. Office of Management and Budget, *The Budget of the United States Government*, annual.

# NO. 1072. SPACE VEHICLE SYSTEMS—SALES AND BACKLOG ORDERS: 1965 TO 1978

[In millions of dollars. Backlog orders as of Dec. 31. Based on data from major companies engaged in manufacture of aerospace products. Excludes engines and propulsion units]

YEAR	NET SALES			BACKLOG ORDERS			YEAR	NET SALES			BACKLOG ORDERS		
	Total	Military	Non-military	Total	Military	Non-military		Total	Military	Non-military	Total	Military	Non-military
1965.....	2,449	602	1,847	2,203	503	1,700	1972.....	1,656	905	751	959	646	313
1966.....	2,710	734	1,976	1,494	428	1,066	1973.....	1,562	902	660	1,177	923	254
1967.....	2,199	789	1,410	1,974	1,096	878	1974.....	1,751	944	807	1,492	1,131	361
1968.....	2,357	899	1,458	1,329	834	495	1975.....	2,119	1,096	1,023	1,304	1,019	285
1969.....	2,282	1,187	1,095	1,330	869	461	1976.....	2,002	904	1,098	1,234	902	332
1970.....	1,956	1,025	931	1,184	786	398	1977.....	1,870	814	1,056	1,589	1,263	326
1971.....	1,725	860	865	916	603	313	1978.....	2,315	994	1,321	2,092	1,604	488

Source: Aerospace Industries Association of America, Inc., Washington, D.C., *Aerospace Facts and Figures, 1979/80* (copyright).

# NO. 1073. SPACE LAUNCHINGS: 1957 TO 1978

[Criterion of success is attainment of Earth orbit or Earth escape by payload]

YEAR	UNITED STATES				U.S.S.R. successful launchings	YEAR	UNITED STATES				U.S.S.R. successful launchings
	Earth orbit		Earth escape				Earth orbit		Earth escape		
	Success	Failure	Success	Failure			Success	Failure	Success	Failure	
Total..	923	129	79	15	1,581	1967.....	78	4	10	-	75
1957.....	-	1	-	-	2	1968.....	61	15	3	-	85
1958.....	5	8	-	4	1	1969.....	58	1	8	1	80
1959.....	9	9	1	2	3	1970.....	36	1	3	-	103
1960.....	16	12	1	2	3	1971.....	45	2	8	1	114
1961.....	35	12	-	2	8	1972.....	33	2	8	-	109
1962.....	55	12	4	1	26	1973.....	23	2	3	-	129
1963.....	62	11	-	-	39	1974.....	27	2	1	-	114
1964.....	69	8	4	-	75	1975.....	30	4	4	-	139
1965.....	93	7	4	1	52	1976.....	33	-	1	-	141
1966.....	94	12	7	11	52	1977.....	27	2	2	-	125
						1978.....	34	2	7	-	138

- Represents zero. <sup>1</sup> Attained Earth orbit and included in Earth orbit success totals.

Source: Library of Congress, Science Policy Research Division, *United States and Soviet Progress in Space: Summary Data Through 1978 and A Forward Look*, January 1979.